The New England
Journal of Medicine

VOLUME 200 MARCH 7, 1929 NUMBER 10

The Massachusetts Medical Society

PROCEEDINGS OF THE COUNCIL

Stated Meeting, February 6, 1929

A Stated Meeting of the Council was held in John Ware Hall, Boston Medical Library, February 6, 1929, at 12 o'clock noon. The President, Dr. John M. Birnie of Springfield, was in the chair and the following 96 Councilors present:

BARNSTABLE
W. D. Kinney

BRISTOL NORTH
F. H. Dunbar

BRISTOL SOUTH
E. F. Cody
D. J. Fennelly
E. D. Gardner

ESSEX NORTH
G. E. Kurth
E. S. Bagnall
J. F. Burnham
A. P. George
T. R. Healy
F. S. Smith
F. W. Snow

ESSEX SOUTH
J. A. Bedard
W. T. Hopkins
J. F. Jordan
W. G. Phippen
R. E. Stone

FRANKLIN
H. G. Stetson

HAMPDEN
J. M. Birnie
A. J. Douglas
E. A. Knowlton
S. A. Mahoney
A. G. Rice
G. L. Steele

MIDDLESEX EAST
C. E. Montague

MIDDLESEX NORTH
J. H. Lambert
J. A. Mehan
T. A. Stamas

MIDDLESEX SOUTH
A. W. Dudley
E. H. Bigelow
A. H. Blake
W. H. Crosby
D. F. Cummings
F. G. Curtis
Cora E. Harriman
Edward Mellus
C. E. Mongan
J. F. Nelligan
E. H. Stevens
A. K. Stone

NORFOLK
Victor Safford
D. N. Blakely
F. A. Bragg
W. L. Burrage
F. P. Denny
D. G. Eldridge
W. A. Griffin
J. B. Hall
G. W. Kaan
W. B. Keeler
E. B. Lane
H. W. Martin
S. F. McKeen
Mabel D. Ordway
H. F. R. Watts
P. R. Withington

NORFOLK SOUTH
D. A. Bruce
W. G. Curtis

PLYMOUTH
T. H. McCarthy
J. J. McNamara
C. G. Miles
G. A. Moore
J. P. Shaw
A. C. Smith

SUFFOLK
A. W. Allen
J. W. Bartol
W. J. Brickley
David Cheever
A. L. Chute
R. C. Cochrane
A. H. Crosbie
W. P. Cross
R. L. DeNormandie
G. S. Derby
W. H. Ensworth
E. P. Joslin
T. J. O'Brien
W. S. Parker
Jane D. K. Sabine
W. R. Sisson
Robert Soutter
J. S. Stone
R. H. Vose
Conrad Wesselhoeft
A. G. Hurd
A. W. Marsh
F. H. Washburn
S. B. Woodward

WORCESTER
W. P. Bowers
L. R. Bragg
G. A. Dix
G. E. Emery

WORCESTER NORTH
J. H. Kearney
W. E. Currier
C. H. Jennings
A. F. Lowell

The minutes of the last meeting were read in abstract by the Secretary and, as no corrections or omissions were noted they were accepted as read and printed in the Proceedings in the *Journal*. Dr. D. N. Blakely reported for the Committee on Membership and Finance, on Membership and the report was accepted and its recommendations adopted.

REPORT OF COMMITTEE ON MEMBERSHIP AND FINANCE ON MEMBERSHIP

Your Committee makes the following recommendations as to membership:

1. That the following named six Fellows be allowed to retire under the provisions of Chapter I, Section 5, of the By-Laws:

1. Cochran, William James, Natick.
1. Hoyt, Walter Scott, Waltham.
3. Merritt, Victor Sulviro, Springfield.
4. Newhall, Herbert William, Lynn.
5. O'Donnell, Francis Michael, Newton.
6. Parsons, Azariah Worthington, Oakwood, Texas.

2. That the dues for 1929 of the following named three Fellows be remitted under the provisions of Chapter I, Section 6, of the By-Laws:

1. Beaulieu, Francis Xavier, Taunton.
2. Ruble, Wells Allen, Watford, Herts, England.
3. Wilder, Edward Wheeler, Madura, South India.

3. That the following named fourteen Fellows be allowed to resign, as of December 31, 1928, under the provisions of Chapter I, Section 7, of the By-Laws:

1. Albert, Lionel Louis, Yonkers, N. Y.
2. Bliss, George Stephen, Pomona, Calif.
3. Bolton, Charles James, Bridgewater.
4. Brownrigg, Albert Edward, Washington, D. C.
5. Butterfield, George Kittredge, Troy, N. Y.
6. Church, Claude Henry, Berkeley, Calif.
7. Evarts, Helen Wardner, Saranac Lake, N. Y.
8. Jepson, Paul Newton, Philadelphia, Pa.
9. Luftig, Jacob, Brooklyn, N. Y.
10. Russman, Charles, Middletown, Conn.
11. Shores, Harvey Towle, Northampton.
12. Sporn, Abram, Middletown, N. Y.
13. Streeter, Howard Alvertus, Manchester, N. H.
14. Watts, Harry Adelbert, Braintree.

4. That the following named five Fellows be allowed to change their membership from one District Society to another without change of legal residence, under the provisions of Chapter III, Section 3, of the By-Laws:

Three from Middlesex South to Suffolk

1. Gallison, Davis Thayer, Newtonville.
2. McClure, Charles Walter, Belmont.
3. Muller, Gulli Lindh, Cambridge.

One from Middlesex South to Norfolk

1. Snow, Kathleyne Swift, Brighton.

One from Worcester North to Worcester.

1. Sibley, Marion Esther Bowker, Athol.

DAVID N. BLAKELY, *Chairman.*

The Secretary read the reports of the committees appointed at the last meeting to consider the petitions of Mitchell Sisson, Maurice T. Scanlan and Carl L. M. Holmberg to be restored to the privileges of fellowship and it was voted to restore them under the usual conditions. He read the report of the committee appointed to consider a similar petition from Antoinette F. Konikow and it was voted to accept the report of the committee, namely that the petitioner be not restored to the privileges of fellowship. Petitions were read from the following five deprived Fellows and, on nomination by the Chair, these committees were appointed to consider them.

For William James Brown
A. W. Allen
C. G. Mixter
Gerald Blake

For Edwin Warren Bullock
C. E. Mongan
J. A. McLean
A. H. Blake

For George Luke Black
J. J. Bartley
F. A. Conlon
J. J. Sullivan

For Warren John Bostick
E. L. Davis
A. G. Rice
J. J. Cosgrove

For George Robbins
F. P. Denny
H. K. Boutwell
E. B. Lane

The Chair nominated and the Council appointed the following delegates:

To Congress on Medical Education, Licensure and Hospitals at Chicago, February 18, 19, 20, 1929:

P. P. Johnson, Beverly.

To House of Delegates, American Medical Association, for two years from June 1, 1929:

F. B. Lund, Boston. Alternate: W. H. Robey, Boston.
E. F. Cody, New Bedford. Alternate: P. E. Truesdale, Fall River.
R. I. Lee, Boston. Alternate: C. H. Lawrence, Boston.

To Annual Meetings of New England State Medical Societies:

MAINE: W. D. Kinney, Osterville; C. G. Lane, Boston.
NEW HAMPSHIRE: R. V. Baketel, Methuen; M. F. Fallon, Worcester.
VERMONT: J. W. Bunce, North Adams; Fresenius Van Nuys, Weston.
RHODE ISLAND: C. S. Holden, Attleborough; T. H. McCarthy, Brockton.
CONNECTICUT: F. B. Sweet, Springfield; M. V. Safford, Jamaica Plain.

Dr. A. K. Stone read the report of the Auditing Committee and the Treasurer's Report. (See Appendix.) He summarized some of the features of his report and on motion, duly seconded the report was accepted by vote. Dr. D. N. Blakely read the report of the Committee on Membership and Finance, on Finance, including the Budget for 1929 (see Appendix) and the report was accepted and its recommendations adopted.

The Chair explained that the Committee on Clinics and Health Associations had recommended the formation of a sub-committee to study the situation in Norfolk, Suffolk and Middlesex South, and that the Council had appointed such a committee in October last. He read the following report of this committee:

REPORT OF SUB-COMMITTEE ON CLINICS

Dr. Walter L. Burrage,
Secretary, Massachusetts Medical Society,
182 Walnut Street, Brookline, Mass.

Dear Sir:

The officers of the Norfolk, Middlesex South and Suffolk District Medical Societies have met in conformity with the recommendation of the Committee on Clinics and Health Associations, adopted by the Council of the Massachusetts Medical Society on October 3, 1928.

The recommendation above referred to reads as follows:

That a Committee consisting of the presidents, vice-presidents and secretaries of the Norfolk, Middlesex South and Suffolk District societies be created. That the committee be authorized to confer with the hospital and health associations in these districts in regard to a possible solution, through a code of procedure or otherwise, of the unsolved and vexatious problems which lie in the field of medical practice and its related economics.

After discussion of the subject of the resolution recommended by the said committee it was the opinion of the members present that it would not be feasible for the officers designated to undertake effectively a solution of the problems involved, and they would, therefore, respectfully recommend that the matter be reconsidered by the Council.

VICTOR SAFFORD,
President, Norfolk District Society.

A. W. DUDLEY,
President, Middlesex South District Society.

LINCOLN DAVIS,
President, Suffolk District Society.

SYLVESTER F. MCKEEN,
Vice-President, Norfolk District Society.

F. VAN NUYS,
Vice-President, Middlesex South District Society.

WILLIAM H. ROBEY,
Vice-President, Suffolk District Society.

FRANK S. CRUICKSHANK,
Secretary, Norfolk District Society.

STEPHEN M. BIDDLE,
Secretary, Middlesex South District Society.
ARTHUR H. CROSBIE,
Secretary, Suffolk District Society.

The Chair said that the sub-committee was unable to cope with the situation and asked to be relieved. Dr. C. G. Miles, Plymouth, asked if the sub-committee was passing the buck and the Chair said that on the contrary it had been the main committee which had done that to the sub-committee; that the committee composed of a member from each District Society was still in existence, it had been given a duty by the Council to investigate clinics and health associations throughout the State. On motion, duly seconded the report of the sub-committee was accepted. Dr. Miles stated for the larger committee that the problem was a very difficult one; that the committee asked for a further extension of time and it was voted to grant such an extension.

Dr. H. P. Stevens, Middlesex South, presented the following report of progress for the committee to investigate the Workmen's Compensation Act. No action:

REPORT OF PROGRESS OF THE COMMITTEE TO INVESTIGATE THE WORKMEN'S COMPENSATION ACT

The Committee met on September 12, at the Society's Committee Room, and organized. After a free round-table discussion it was voted to appoint a sub-committee to confer with the Industrial Accident Board, the New England Hospital Association, various insurance representatives and others, with the view to obtaining information and receiving suggestions as to methods of solving the Industrial Accident problem.

On October 25, the sub-committee met with representatives of the Industrial Accident Board. This proved to be a very interesting conference and the committee felt it might be productive of some good.

On December 3 a conference was held with a committee, appointed to represent the New England Hospital Association. After an interesting discussion it was agreed that the most promising method of attacking this subject would be to formulate a uniform set of rules for the guidance of hospitals in handling the situation. For this purpose a sub-committee, representing the two bodies, was appointed and after some correspondence this committee met on January 20. It was agreed that the proposed rules should be made broad enough to be applicable to all types of hospitals, and should be so drawn as to meet, if possible, with the approval of the Industrial Accident Board. We believe it would be futile to propose anything that would be confronted by active opposition from this Board. The general plan of these rules was agreed upon and the first draft has now been drawn up. In general they follow along lines similar to the resolutions passed by the trustees of the Union Hospital of Fall River last spring, which were published in the JOURNAL in the issue of July 12, 1928.

The Committee asks that it be permitted to continue along these lines as it is hopeful that it will be able to formulate something acceptable to the Industrial Accident Board, which it can present for the approval of the Society at the annual meeting in June.

HORACE P. STEVENS, *Chairman.*

The Chair said that the Chiropractic Bill had been introduced into the Legislature in practically the same form as two years ago; the Committee on State and National Legislation had considered it, had drawn up a letter which would be mailed to every Fellow of the Society and to various health organizations throughout the State, outlining the attitude of the Massachusetts Medical Society. He hoped that the Councilors would give the matter as much publicity as possible. He spoke of the co-öperation the Committee on State and National Legislation had received throughout the State, particularly as regards the bill of Dr. S. B. Woodward requiring vaccination against smallpox in the private schools. He wished to commend especially Dr. T. H. McCarthy, President of the Plymouth District Medical Society for the excellent work done by the committee in that District; the type of work there done might well be a model to all the District Medical Societies. Dr. T. H. McCarthy said that all of the members of his committee had been equally active and disclaimed any particular merit for himself. He presented the following resolution:

DR. T. H. MCCARTHY'S RESOLUTION

Resolved: That the legislative committee of each District should invite the members of the General Court in their respective Districts to meet with them at some time previous to the convening of each session of the Legislature; that they shall explain to them the attitude of the Society in relation to any measure pertaining to the public health or any other measures appertaining to the practice of medicine in the Commonwealth which may come before them at the session which is about to convene.

He explained that he had found that the "Legislative Committee" of his district had been appointed from year to year in the past but had not functioned. Last December with the sanction of Dr. J. S. Stone, Dr. S. B. Woodward and the Plymouth District Society they had given a dinner to the Plymouth County members of the Legislature. Nine out of the thirteen legislators attended. Before adjournment eight of the nine members had agreed to support the health measures which were approved by the committee; one woman member was recalcitrant but later came into line. Dr. McCarthy thought that the legislative committees could disabuse the minds of the legislators on Beacon Hill of a prevalent misconception, namely, that the Massachusetts Medical Society is a medical trust, like a bricklayers' union, for instance, which allows only so many apprentices to join and prevents all outsiders from engaging in practice. He moved the adoption of his resolution and it was seconded by Dr. Woodward who thought that the meeting in the Plymouth District had embodied one of the most advanced ideas that we have had for a great many years; he had attended the dinner and was much impressed by its success. On being put to a vote the resolution was adopted.

Dr. C. E. Mongan, Middlesex South, said that a few weeks ago about sixty physicians, Fellows of the Massachusetts Medical Society, met to consider the present status of malpractice suits against physicians in Massachusetts. A subcommittee from the larger gathering had asked him to present the following resolution and motion:

MOTION OF DR. C. E. MONGAN

In view of the unsatisfactory medical malpractice situation existing in this state, as evinced by an enormous increase in the number of claims and suits brought against doctors, characterized by questionable testimony and verdicts which seem to be unjustified, and in view of the fact that a representative group of physicians, which feels that it has suffered because of this situation, has appealed to the society for assistance in meeting the problem, it is *Moved:* that a special committee of seven be appointed by the President to consider all the facts and factors involved, that this committee be imponed to investigate the matter, to invite the Fellows of the society to offer testimony and assistance when called upon, and further that this committee confer with the Committee on Malpractice Defence, the Committee on Ethics and Discipline and with the Massachusetts Bar Association, and to report at the next meeting of the Council its findings and recommendations.

Dr. Mongan moved the acceptance of the motion, after it had been amended on motion by Dr. J. S. Stone, by the addition of the clause concerning the Massachusetts Bar Association, and the motion was duly seconded. Dr. Mongan explained that the Society has not the machinery to cope with an increasingly difficult condition of affairs as regards the suits for malpractice which are constantly increasing in number; that changes have occurred in the community both economically and in the relation of the people to their physicians; even the best physicians are brought into court and obliged to defend themselves against all sorts of charges; he thought that some mode of procedure could be evolved whereby medical men would not be made to suffer unnecessarily not only in their reputations but in their pockets. He gave some statistics to show the growth in the number of suits for malpractice in the recent past. The Chair called attention to the fact that by the report of the Treasurer, just submitted, it appeared that the Society had expended during the preceding year nearly $2000 for malpractice defence. On being put to a vote the motion was accepted. The President appointed the following committee: Stephen Rushmore, Boston, *Chairman;* Walter P. Bowers, Clinton; Charles E. Mongan, Somerville; Francis D. Donoghue, Boston; Joseph A. Mehan, Lowell; Walter G. Phippen, Salem; Michael F. Fallon, Worcester. There being no further business the Council adjourned at 1.03 o'clock p. m.

WALTER L. BURRAGE, *Secretary.*

APPENDIX TO THE PROCEEDINGS OF THE COUNCIL

LETTER OF THE CERTIFIED PUBLIC ACCOUNTANTS

February 6, 1929.

Dr. Gerald Blake
Dr. Charles H. Hare } Auditing Committee of the Massachusetts Medical Society, Boston, Mass.

Gentlemen:

At the request of your Treasurer, Dr. Arthur K. Stone, we have audited the books and accounts of the Massachusetts Medical Society for the year ended December 31, 1928 and submit herewith the following statements:

Schedule A Statement showing the Assets and Liabilities of the Massachusetts Medical Society, December 31, 1928

Schedule B Statement showing the Current Account of the Massachusetts Medical Society for the year ended December 31, 1928

The cash on deposit in the banks has been reconciled with the bank statements and found correct. All known cash receipts have been properly entered on the books and vouchers or cancelled checks were found to support all disbursements.

The enclosed statement showing the financial condition of the Society on December 31, 1928 is true to the best of our knowledge and belief.

Very truly yours,

HARTSHORN AND WALTER,

Certified Public Accountants.

REPORT OF THE AUDITING COMMITTEE

Boston, Dec. 3rd, 1928.

Your committee has examined the securities of the Massachusetts Medical Society, and finds them to be as scheduled in the Treasurer's report.

GERALD BLAKE,
C. H. HARE.

TREASURER'S REPORT

SHOWING THE ASSETS AND LIABILITIES OF THE
MASSACHUSETTS MEDICAL SOCIETY
DECEMBER 31, 1928

SCHEDULE A

ASSETS

Cash:			
New England Trust Co.		$5,502.14	
Old Colony Trust Co.		5,076.62	
			$10,578.76
Endowment Funds:			
Shattuck Fund:			
Annuity Policy Mass. Hospital Life Ins. Co.		$9,166.87	
Phillips Fund:			
Massachusetts 3½'s Gold Bonds		10,000.00	
Cotting Fund:			
Deposit in Institution for Savings in Roxbury and its Vicinity	$1,000.00		
Deposit in Provident Institution for Savings in the Town of Boston	1,000.00		
Deposit in Suffolk Savings Bank for Seamen and Others in Boston	1,000.00		
		3,000.00	
General Fund:			
Deposit in Franklin Savings Bank in the City of Boston		1,074.48	
$5,200 Liberty Bonds 4th Issue 4¼%		5,043.23	
5,000 Massachusetts 3½'s Bonds 1938		5,000.00	
1,000 U. S. Steel Corp. 5's 1963		1,009.00	
2,000 U. S. Rubber Bonds 5's 1947		1,735.50	
2,000 American Sugar Refining Co. 6's 1937		1,972.50	
2,000 Great Northern Ry. Co. 5½'s 1952		1,932.50	
2,000 Metropolitan Ice Co. 7's 1954		2,100.00	
4,000 Public Service Co. No. Ill. 5's 1956		3,640.00	
3,000 Mallory S. S. Co. 5's 1932		2,760.00	
3,000 Dayton Power and Light Co. 5's 1941		2,797.50	
2,000 Conveyance Title Insurance Co. 5½% Parti-Mortgage, due Dec. 1, 1929		2,000.00	
3,000 Commonwealth of Australia 5's 1955		2,985.00	
3,000 Toledo Edison Co. 5's 1947		2,805.00	
3,000 U. S. Cold Storage Bonds 6's 1945		3,000.00	
3,000 Wilson & Co. 1st 6's 1941		3,006.00	
3,000 Cedar Rapids Manufacturing and Power Co. 5's 1953		2,805.00	
3,000 Guaranty Title and Trust Co. 5½'s 1936		3,000.00	
1,000 American Tel. & Tel. Co. 5½'s 1943		985.00	
3,000 Appalachian Electric Co. 5's 1956		2,910.00	
3,000 International Paper 6's 1955		3,076.00	
			77,803.58
New England Journal of Medicine			1.00
Total			$88,383.34

LIABILITIES

Endowment Funds:		
Shattuck Fund (G. C. Shattuck 1854 Balance 1866)	$9,166.87	
Phillips Fund (Jonathan Phillips 1860)	10,000.00	
Cotting Fund (B. E. Cotting $1,000—1876, 1881, 1887)	3,000.00	
		$22,166.87
General Fund Account:		
Balance, January 1, 1928 (Adjusted) *Exhibit 1*	$65,483.62	
Unexpended Balance for the Year Ended December 31, 1928—*Schedule B*	732.85	
		66,216.47
Total		$88,383.34

THE MASSACHUSETTS MEDICAL SOCIETY
ADJUSTED GENERAL FUND ACCOUNT
JANUARY 1, 1928

SCHEDULE A—EXHIBIT 1

Balance, January 1, 1928	$65,323.62
Add,—Profit on Adirondack Power and Light Company Bonds April 1, 1928	160.00
Balance, January 1, 1928 (Adjusted)—*Schedule A*	$65,483.62

STATEMENT

SHOWING THE CURRENT ACCOUNT OF THE MASSACHUSETTS MEDICAL SOCIETY FOR THE YEAR ENDED DECEMBER 31, 1928

SCHEDULE B

CREDIT

Assessments Received by District Treasurers:			
Barnstable		$256.00	
Berkshire		768.00	
Bristol North		504.00	
Bristol South		1,592.00	
Essex North		1,744.00	
Essex South		1,840.00	
Franklin		256.00	
Hampden		2,218.00	
Hampshire		464.00	
Middlesex East		672.00	
Middlesex North		872.00	
Middlesex South		5,335.00	
Norfolk		4,864.00	
Norfolk South		680.00	
Plymouth		907.00	
Suffolk		5,834.00	
Worcester		2,592.00	
Worcester North		616.00	
			$31,924.00
Assessments Received by Treasurer			2,607.00
Total			$34,531.00
Income from Shattuck Fund		$458.34	
Income from Phillips Fund:			
Massachusetts 3½'s Bonds		350.00	
Income from Cotting Fund:			
Interest—Institution for Savings in Roxbury and its Vicinity	$45.00		
Interest—Suffolk Savings Bank for Seamen and Others in Boston	45.00		
Interest—Provident Institution for Savings in the Town of Boston	40.00		
		130.00	
Income from General Fund:			
Franklin Savings Bank	$48.34		
Liberty Bonds 4¼%	221.00		
Massachusetts Bonds 3½'s	175.00		
U. S. Rubber Co. Bonds	100.00		
U. S. Steel Co. Bonds	50.00		
American Sugar Refining Co. Bonds	120.00		
Commonwealth of Australia	150.00		
Great Northern Railway Co. Bonds	110.00		
Cedar Rapids Manufacturing & Power Co. Bonds	150.00		
Dayton Power and Light Co. Bonds	150.00		
Toledo Edison Co. Bonds	150.00		
Public Service Co. No. Ill. Bonds	200.00		
American Tel. & Tel. Co. Bonds	55.00		
Appalachian Electric Co. Bonds	150.00		
Mallory S. S. Co. Bonds	150.00		
Metropolitan Ice Co. Bonds	26.06		
U. S. Cold Storage Bonds	180.00		
Guaranty Title and Trust Co. Bonds 5½'s	165.00		
Conveyancers Title Insurance Co. (Parti-Mortgage)	110.00		
International Paper Bonds	180.00		
Wilson Co. Bonds 6's	180.00		
Total		2,820.40	
Income from Deposits in Banks:			
New England Trust Co.	$290.21		
Old Colony Trust Co.	99.90		
		390.11	
Miscellaneous Income		7.00	
			4,155.85
Total			$38,686.85

DEBIT

General Expenses:				
President's Expense		$388.56		
Secretary's Expense		549.75		
Treasurer's Expense		257.60		
District Treasurers' Expense		1,894.16		
Censors' Expense		633.16		
Cancer Week Expense		175.16		
Delegates' Expense (A. M. A.)		925.20		
Building Fund Expense		19.50		
New England Medical Council		84.80		
Section of Obstetrics and Gynecology		163.25		
Committee Room Expenses:				
Telephone	$74.42			
Rent	674.30			
Janitor	42.50			
Salaries	650.00			
Light	7.76			
Miscellaneous Items	135.21			
		*1,584.19		
Salaries		6,750.00		
Rent		1,200.00		
Miscellaneous Expense		12.74		
			$14,638.07	
New England Journal of Medicine			13,500.00	
Shattuck Lecture			200.00	
Committee Expenses:				
Arrangements		$2,214.39		
Membership and Finance		18.05		
Education		319.76		
Ethics and Discipline		127.92		
Revision of By-Laws		555.98		
State and National Legislation		26.10		
Public Health		191.20		
			3,453.40	
Annual Dividend to District Societies			4,000.00	
Defense of Malpractice Suits			1,947.03	
Cotting Luncheon			215.50	
Total Expenses				37,954.00
Balance Transferred to General Fund Account—*Schedule A*				$732.85

*Detailed explanation of this Item on file for inspection at Committee Room.

(Signed) ARTHUR K. STONE, *Treasurer.*

RECONCILIATION
BETWEEN THE PROFIT AND LOSS AND BUDGET
FOR THE YEAR ENDED DECEMBER 31, 1928

	Profit and Loss Account	Budget Estimate	Difference Under-Estimated	Difference Over-Estimated
REVENUE:				
Assessments	$34,531.00			
Interest from Investments	3,738.74			
Interest on Bank Deposits and Miscellaneous Income	417.11			
Total Society Revenue	$38,686.85	$37,000.00		$1,686.85
Increase of Revenue to Budget Estimate		1,686.85		
Total Revenue as per Auditors' Report	$38,686.85	$38,686.85		
EXPENSES:				
Salaries of Officers:				
Secretary	$2,500.00	$2,500.00		
Treasurer	500.00	500.00		
Assistant to President	3,750.00	5,000.00		$1,250.00
Officers' Expenses:				
President and Vice-President	388.56	500.00		111.44
Secretary	549.75	750.00		200.25
Treasurer	257.60	400.00		142.40
District Treasurers	1,894.60	1,700.00	194.16	
Censors	633.16	600.00	33.16	
Delegates (A. M. A.)	925.20	800.00	125.20	

Rent	1,200.00	1,200.00		
Journal	13,500.00	15,000.00		1,500.00
Defense of Malpractice Suits	1,947.03	2,000.00		52.97
Shattuck Lecture	200.00	200.00		
Cotting Lunches	215.50	500.00		284.50
Committee Room Expenses	1,584.19	2,500.00		915.81
Revision of By-Laws	555.98	600.00		44.02
Delegates to New England Medical Council	84.80	100.00		15.20
Cancer Week Expense	175.16	*200.00		24.84
Building Fund Expense	19.50		19.50	
Section of Obstetrics and Gynecology	163.25	*250.00		86.75
Miscellaneous Expense	12.74		12.74	
Standing Committees:				
Arrangement for Annual Meeting	2,214.39	3,000.00		785.61
Publications and Scientific Papers		200.00		200.00
Membership and Finance	18.05	25.00		6.95
Ethics and Discipline	127.92	25.00	102.92	
Medical Education	319.76	200.00	119.76	
State and National Legislation	26.10	500.00		473.90
Public Health	191.20	600.00		408.80
Public Instruction		200.00		200.00
Dividends to District Societies	4,000.00	4,000.00		
Total Expenses as per Auditors' Report	$37,954.00		$607.44	$6,703.44
Total Budget		$44,050.00		
Expenses Over-Estimated	6,096.00		6,096.00	
	$44,050.00	$44,050.00	$6,703.44	$6,703.44

SUMMARY

Total Revenue	$38,686.85
Total Expenses	37,954.00
Net Income Transferred to General Fund Account	$732.85

*Amounts appropriated at the June meeting of the Council.

REPORT OF COMMITTEE ON MEMBERSHIP AND FINANCE, ON FINANCE BUDGET FOR 1929

Your Committee recommends the following Appropriations

Salaries:		
Secretary	$2,500	
Treasurer	500	
Assistant to President	5,000	
		$8,000
Expenses of Officers and Delegates:		
President and Vice-President	$500	
Secretary	700	
Treasurer	400	
District Treasurers	1,700	
Censors	600	
Delegates to House of Delegates, A. M. A.	1,500	
Delegates to New England Medical Council	100	
		5,500
Rent Boston Medical Library	$1,200	
Shattuck Lecture	200	
Cotting Lunches	350	
Committee Room Rent and Expenses	2,500	
		4,250
Standing Committees:		
Of Arrangements for Annual Meeting	$3,500	
Publications		
a. *New England Journal of Medicine*	15,000	
b. Annual Directory of Fellows	1,650	
Membership and Finance	25	
Ethics and Discipline	100	
Medical Education and Medical Diplomas (including expenses of Delegate to annual Congress at Chicago)	200	
State and National Legislation (including expenses of Delegate to annual Congress at Chicago)	500	
Public Health	300	
Malpractice Defense	3,000	
		24,275
Dividends to District Societies		4,000
Total		$46,025
Income as Estimated by Treasurer		38,500
To be taken from General Fund		$7,525

DAVID N. BLAKELY, *Chairman.*

THE TREATMENT OF SUBACUTE BACTERIAL ENDOCARDITIS BY TRANSFUSION FROM IMMUNIZED DONORS

Report of a Case*

BY CHESTER M. KURTZ, M.D.,† AND PAUL D. WHITE, M.D.†

DURING the course of the last decade subacute bacterial endocarditis has come to be recognized as a definite disease entity which attacks a certain percentage of persons afflicted with rheumatic or congenital heart disease. The diagnosis of the condition is not ordinarily difficult, but up to the present time no effective form of treatment has been discovered, and the disease terminates fatally in almost 100% of the cases. Since the discovery of the streptococcus viridans as the etiologic agent in about 95% of the cases, various forms of specific therapy such as autoserotherapy, vaccination with stock and autogenous vaccines, and transfusions from immunized donors have been tried. The fact that the infection and the anemia play such large rôles in the disease caused us, a year or two ago, to feel that the trial of a very large transfusion from immunized donors would be warranted in the struggle to overcome this fatal disease. Soon after this there came under our care a case which seemed especially favorable for such treatment, the details of which are given in the present report.

REVIEW OF THE LITERATURE

Very little has been written on the treatment of subacute bacterial endocarditis by the use of immunized transfusions, but what articles are available are, for the most part, very discouraging. During the war, this form of therapy was found sometimes effective in curing septicemias due to streptococci and staphylococci and some workers who were treating endocarditis attempted to apply the same form of therapy to their cases. Unger[1] reported 7 cases of ordinary septicemia treated by transfusions from donors immunized with a stock vaccine. The blood cultures of 6 became negative and 5 went on to complete recovery. In 1917 Libman and Ottenberg[2] published a paper on blood transfusion and stated that in a number of cases of subacute bacterial endocarditis in which they had employed transfusions from donors immunized with vaccines made from the patients' blood cultures, the results were in no way superior to those obtained with donors who had not been immunized. They recommended transfusion as a supporting measure and felt that in rare instances it might sufficiently prolong life to effect a spontaneous cure. Lamb[3] believes that immunized transfusions are valuable in controlling the anemia but have no curative effect. Phillips[4] makes the statement: "Vaccines and transfusions of blood, in some instances from a vaccinated donor, have been tried repeatedly, but from the reports in the literature and from my own personal experience these have been of no value." Blumer[5] treated one case with immunized transfusions without success. Kinsella[6] reported no noticeable benefit occurring after transfusion in cases of subacute bacterial endocarditis under his observations. Colebrook and Storer[7] gave a patient with malignant endocarditis three immuno-transfusions at intervals of two to three weeks. There was a marked reduction of the temperature following each of the transfusions but the patient subsequently died of circulatory collapse. They also tried similar treatment in a child with the same disease without benefit. Browne[8] reported a case in which two sisters of the patient were immunized with a vaccine from the patient's blood culture. Two transfusions were given, one of 450 cc. and another of 510 cc. There was a decided improvement in the temperature, but the patient died 4 months after the second transfusion. The author was of the opinion that such treatment begun early in the course of the disease would be of benefit.

On the other hand, there have been a few encouraging reports, although they are decidedly in the minority. Wordley[9] reported a typical case of subacute bacterial endocarditis in a man of 37 who had had a temperature of 102-103° for four months. Following a series of three transfusions from immunized donors there was a complete remission and six months later the patient felt perfectly well and was working. Robertson[10] reported a successful result in a case of endocarditis with a positive streptococcus viridans blood culture. He gave six transfusions from immunized donors in doses varying from 200 to 300 cc. of whole blood. Dick[11] reported a case of streptococcus viridans endocarditis treated with 4 transfusions of 25 cc. of blood over a period of 6 days. There was marked improvement both objectively and subjectively, but the patient died suddenly the second day after the last transfusion, from what was thought to be an embolus. Howell, Portis and Beverly[12] published a paper on the antibody response following immuno-transfusions in a case of bacterial endocarditis. There were no agglutinins in the patient's blood before treatment was instituted. The patient received 12 transfusions from 5 immunized donors extending over a period of five months and the antibody titer rose definitely after each transfusion. The authors state: "The patient's life was prolonged four to five months and since immuno-

*From the Massachusetts General Hospital, Boston, Mass.
†For record and address of author see "This Week's Issue," page 503.

transfusions prolonged the life of the patient in this severe case of acute bacterial endocarditis, it seems possible that in subacute bacterial endocarditis it might effect a cure."

REPORT OF CASE

J. M., a white married woman of 26, entered the Boston City Hospital in Nov. 1926, complaining of pains in the shoulders and generalized weakness. Her past history was significant in that she had suffered at the age of 14 years from an attack of scarlet fever which was immediately followed by rheumatic fever, resulting in valvular disease. The family history was irrelevant. For the past five months before entry she had been feeling weak and easily fatigued. She had had frequent rheumatic pains in both shoulders, and felt generally below par. Physical examination revealed a fairly well developed and nourished young women with rather good color. The cardiac apex was just outside the midclavicular line and there was some enlargement to the left in the region of the left auricle and pulmonary artery. A presystolic thrill could be felt at the apex. The first apical sound was louder than normal and the second pulmonic sound was accentuated. There was a distinct blowing systolic murmur heard all over the precordium and transmitted to the axilla. A low-pitched rumbling mid-diastolic murmur was audible at the apex. The spleen was palpable. The fingers were definitely clubbed and there were several petechiae present, more especially on the hands and fingers. She remained in the hospital six weeks, during which time she had daily fever, the temperature ranging from 99 to 101°. The petechiae gradually faded and new ones made their appearance, most frequently in the finger tips and on the palms of the hands, and usually accompanied by sharp pain lasting from 12 to 24 hours. There was no evident anemia at this time, the red blood count and hemoglobin being within normal limits. Blood cultures were negative. A diagnosis of subacute bacterial endocarditis superimposed on a former lesion of mitral regurgitation and stenosis was made and the patient left the hospital against advice, the last week of December, 1926. In February 1927 she entered the medical ward of the Massachusetts General Hospital with complaints similar to those made at the time of entrance into the Boston City Hospital, but somewhat more exaggerated. At this time she was having more frequent emboli to the fingers and hands, and occasionally there was evidence of embolic phenomena in the abdomen. The heart findings were the same as noted 4 months previously. There were no signs of heart failure and there was practically no anemia, the blood counts at this time being:

Red blood cell count 4,210,000; white count 8,050; haemoglobin 80%, the smear showing normal differential white cell count, and slight achromia of red cells.

The blood culture February 7th showed no growth but another culture February 12th showed the streptococcus viridans. Altogether eight blood cultures were taken, the streptococcus viridans being found twice (February 12th and July 19th) and two other cultures showed contaminations; four showed no growth.

The electrocardiogram showed normal rhythm at a rate of 80 with unusually deep S waves in leads II and III.

The urine was entirely normal and the renal function test (phenolsulphonephthalein) was 40% in two hours.

The present illness was known to have had its onset at least eight months before and the fact that the patient had shown so much resistance to the infection during this period made us feel that this was a particularly favorable case in which to try immunized transfusions. The advice of Dr. Reuben Ottenberg was sought as he had done work along this line some years previously. He held out little hope for the success of the method and stated that in the cases he had observed, the patients' own serum contained a higher titer of antibodies than did that of the immunized donors. Dr. Hans Zinsser was consulted as to the proper procedure of immunizing the donors and he advised that a series of six injections of the vaccine be given the donor over a period of three weeks. He also was decidedly skeptical regarding the value of this form of treatment. A blood culture from the patient was positive for streptococcus viridans and a vaccine was made from the organism thus obtained. Three donors, the father and two brothers, whose blood was found to be compatible with that of the patient, were immunized by subcutaneous injections varying from 0.3 to 1 cc. of the vaccine every three days over a period of three weeks. (See Table 1.) The donor's serum was titrated for antibodies at the end of this period, and, as will be seen from Table 2, the patient's serum contained a higher titer than did that of any of the donors. The first transfusion was performed on March 25, 1927. The patient was first exsanguinated of 1000 cc. and then given *1800 cc. of immunized blood at one time*, 600 cc. from each of the three donors. Smaller transfusions from the immunized donors were given subsequently as follows:

March 25, 1800 cc.
April 16, 500 cc.
April 25, 500 cc.
May 10, 500 cc.
June 4, 500 cc.
June 27, 500 cc.

No marked change in the progress of the disease was noticeable following any of the transfusions. The febrile reaction continued unabated and new petechiae appeared almost daily. The patient was discharged from the hospital in May 1927 and entered for only a day or two at a time for the last two transfusions.

On August 17, 1927, the patient re-entered the hospital. At this time there were large petechial spots on the finger tips, the spleen was very large and

TABLE 1

DOSAGES OF VACCINE INJECTED INTO THE FATHER AND TWO BROTHERS WHO ACTED AS DONORS

Date	Father	Date	Bro. C.	Date	Bro. F.
3/4/27	0.3 cc.	3/3	0.3 cc.	3/4	0.3 cc.
3/7	0.5	3/6	0.5	3/7	0.5
3/10	0.75	3/9	0.75	3/10	0.75
3/13	0.75	3/12	0.5	3/13	0.75
3/16	1.0	3/15	0.75	3/16	1.0
3/19	1.0	3/18	1.0	3/19	1.0
3/22	1.0	3/21	1.0	3/22	1.0

TABLE 2

RELATIVE ANTIBODY CONTENT OF PATIENT'S AND DONORS' SERA BY AGGLUTINATION TESTS

Dilution	Control	Father	Brother C.	Brother F.	Patient
1-50	—	±	±	+	++
1-100	—	+	±	+	++
1-200	—	+	—	±	++
1-400	—	—	—	—	±
1-800	—	—	—	—	—
1-1600	—	—	—	—	—

there was a definite anemia. The hemoglobin was 60% and the red cell count 2,500,000. After a few days of observation, during which the septic temperature was found to be still present, she was again discharged. On October 27, 1927 she came as an ambulatory patient to the out-patient cardiac clinic of the Massachusetts General Hospital. She was considerably weaker, but looked fairly well. Fever, embolic phenomena and clubbed fingers still continued. She was again advised to remain in bed under medical care at home. On November 7, 1927, about 17 months after the onset of the illness, the patient died rather suddenly at home after several hours of abdominal cramps and vomiting. A post-mortem examination was not made.

The blood findings are summarized in Table 3.

SUMMARY

In a slowly progressive case of subacute bacterial (streptococcus viridans) endocarditis immunized transfusions from donors vaccinated with a killed culture obtained from the patient's blood were tried. One massive transfusion of 1800 cc. and 5 smaller ones (500 cc. each) were given without any appreciable effect on the course of the disease, which terminated fatally 17 months after the onset. Serological studies showed the antibody titer to be higher in the patient than in any of the donors.

TABLE 3

BLOOD FINDINGS IN THE CASE HERE REPORTED

Date	White Count	Hemoglobin	Red Count	Smear	Blood Culture
2/7/27	8,050	80%	4,210,000	Sl. achromia Differential white count normal	No growth
2/9/27					No growth
2/10/27	8,400	80%	4,140,000	No endothelial phagocytes found	
2/12/27	11,150	80%		Sl. achromia No endothelial phagocytes found	Strept. Viridans
2/17/27	9,400	75%	3,850,000	Mod. achromia No endothelial phagocytes found	
2/24/27	7,900	70%	4,100,000	Sl. achromia No endothelial phagocytes found	
3/2/27	8,000	70%	3,800,000		
3/6/27	8,900				
3/12/27	10,000		4,400,000		
3/22/27					No growth
3/25/27					No growth
3/26/27	7,800	65%	4,208,000	Sl. achromia—No abnormal cells	
4/12/27	6,700	65%	4,480,000	No endothelial phagocytes found	
4/17/27	12,800	70%	4,370,000		
5/5/27	9,050		4,736,000		
5/11/27	11,000		4,310,000		
6/3/27	10,300	65%	3,900,000	Essentially normal	Contamination
6/28/27	6,050	70%	4,000,000		Contamination
7/19/27	7,500	60%	4,010,000		Strept. Viridans
8/16/27	3,700	50%	2,540,000	Mod. achromia—No abnormal cells	

COMMENT

Although, at the outset, this case seemed particularly favorable for treatment, and the transfusions were instituted well before there was any marked degree of anemia, the disease process progressed apparently unabated and terminated as do practically all cases of subacute bacterial endocarditis. The streptococcus viridans, which is usually the etiologic agent found in these prolonged cases, must necessarily be of rather low virulence and the patient thus has an opportunity to develop a certain amount of active immunity which is greater than can be induced by vaccinating a healthy donor, as demonstrated by repeated agglutination tests of the sera. In only one case reported in the literature, that of Howell, Portis and Beverly[12] was the reverse true. It is because of this observation that some writers have come to the conclusion that immunized blood is of no more value than blood from donors who have not been vaccinated. The present case would seem to support that conviction.

The writers take pleasure in acknowledging the help of Drs. Hans Zinsser and Reuben Ottenberg and of the medical and surgical staffs of the Massachusetts General and Boston City Hospitals in the study of this case.

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THE BLOOD PICTURE IN PORTAL CIRRHOSIS OF THE LIVER

A Report Based on 100 Cases*

BY RICHARD B. KING, M.D.†

THE records of 100 patients who were discharged from the wards of the Massachusetts General Hospital between 1922 and 1927 with a diagnosis of cirrhosis of the liver have been reviewed with especial regard to the blood findings.

The present methods of classification, whether based on etiology, pathology or function, are so unsatisfactory that in gathering together these 100 cases, a much larger group had to be reviewed. The type of cirrhosis included in this report is variously described by the names "portal", "Laennec's", "alcoholic", "atrophic", "hob-nail", and "ordinary nodular". In general, these cases entered the hospital with ascites, or jaundice, or both; with or without an alcoholic history; with a liver which was either big or small; and, (those that were examined), showing pathologically diffuse scarring, with an increase in peri-portal connective tissue, with or without fatty infiltration or bile-duct proliferation. Cases of "acute yellow atrophy", "hemachromatosis", "cirrhosis with Banti's syndrome", "biliary cirrhosis of the Hanot's type", and "gummata of the liver" have been excluded.

THE WHITE BLOOD CELL COUNT. Repeated counts of the white blood cells were made in all but one case. Since it was felt that complicating factors in the patient's clinical condition, such as fever, hemorrhage, infections, or operation (especially splenectomy) might cause a wide difference in the counts, these conditions have been considered separately. Table 1 shows the cases with and without fever. It

TABLE 1.

THE WHITE BLOOD COUNT IN CASES WITH AND WITHOUT FEVER. (No discoverable complicating infection, hemorrhage of operation.)

	NO FEVER	99 TO 101	101 TO 103	103 TO 105
TOTAL NO. CASES	14	56	4	7
AVERAGE W.B.C. COUNT	6200	7600	11,700	11,200
NO. CASES BELOW 6000	4	12	1	2
NO. CASES NORMAL	10	14	0	1
NO. CASES ABOVE 10000	0	10	3	4

will be seen that in the latter group there is a leukopenia (i. e., less than 6,000 white cells per cmm. of blood) in 28%, and a leukocytosis in none. Of the febrile cases, in which no cause other than the cirrhosis could be demonstrated to account for the fever, 32% showed a definite leukopenia, while only 36% showed a leukocytosis, and this was very slight, never being over 15,000. The extent of the fever seemed to have very little effect on the white blood count.

Out of eight cases in which operation of some sort was performed the post-operative, white blood, count was recorded in only four. The results of these appear in Table 2; it will be

TABLE 2.

THE WHITE BLOOD COUNT BEFORE AND AFTER OPERATIONS 4 CASES

OPERATION	WHITE BLOOD COUNT Before	After
SPLENECTOMY - OMENTOPEXY	3750	34,000
SPLENECTOMY - OMENTOPEXY	4000	8,000
EXPLORATORY LAPAROTOMY	2000	3,000
EXPLORATORY LAPAROTOMY	2200	10,000

seen that only one of the two patients subjected to splenectomy showed the usual marked leukocytosis characterizing that procedure in conditions other than portal cirrhosis.

Conclusions regarding the bone-marrow response to hemorrhage were difficult to draw; some of the counts were not made until some time after the hemorrhage had occurred, while others were made immediately and then not repeated for several days. In several instances the hemorrhage was the thing which brought the patient to the hospital, so that the pre-existing level of the white blood cell count was not known. In 15 cases, however, it appeared as if there was a decided lack of the usual marrow response, as one-half of these maintained a persistent leukopenia, and only a third showed a leukocytosis, the latter never exceeding 15,000.

A typical leukocytic response to the complicating infections of peritonitis and brain abscess was observed, but in two cases, one with erysipelas and the other with bronchopneumonia, the counts remained at a low normal level.

The lowest counts recorded were in two cases with clinical and serological evidence of syphilis; both of these showed a persistent count of 2,000 cells. The highest count, 60,000, was in a case with a complicating tuberculous kidney which was removed at operation, with subsequent death.

The average of all the cases taken together shows that one-third had a leukopenia, one-third were normal, and one-third had a slight leukocytosis.

THE RED BLOOD CELL COUNT. The red blood cells were counted in 81 of the 100 cases. It will be seen in Table 3 that these counts have been divided into groups, with and without hemorrhage, and it is very striking how little

*From the Medical Clinic of the Massachusetts General Hospital.

†For record and address of author see "This Week's Issue," page 503.

‡Note—The words "of operation" in Table 1 should be "or operation."

difference there is between the two. Cirrhosis of the liver, uncomplicated by hemorrhage, seems to be capable of producing a severe anemia. Thus the average red blood cell count in 57 cases without hemorrhage is seen to be 3,800,000, while that of the cases with hemorrhage, 24 in number, is 3,000,000. In the former group there were several cases with counts as low as 2,000,000, and in these there was no splenic enlargement to suggest that they may have been of the Banti type of splenic anemia. The color index in all these cases was uniformly less than one.

TABLE 3.

THE RED BLOOD COUNT IN 76 CASES

	Below 3 mil.	Below 4 mil.	Normal Count	Lowest Count	Highest Count	Average
Without Hemorrhage	10	27	20	1.5 mil.	5 mil.	3.8 mil.
With Hemorrhage	10	14	0	.8 mil.	4.5 mil.	3.0 mil.

SPECIAL BLOOD STUDIES. Differential blood counts failed to show any abnormality, unless it was an apparent lack of polymorphonuclear leukocytosis in response to hemorrhage. Thus in 14 cases with severe hematemesis there were, on the average, only 70% polymorphonuclear leukocytes, whereas the average of the entire group of 86 cases in which differential counts were reported was 71% polymorphonuclear leukocytes. An icteric index or serum-dilution test was done on 46 patients; in terms of the former the general average was 40, five being above 100. The van den Bergh test was done in seven cases, with a resulting "indirect positive" in four, and a "direct positive" in three. The fragility of the erythrocytes was determined in 17 cases, and was found to be normal in all of them. The bleeding time was estimated in 13 cases; it was normal in 11, of whom nine were jaundiced, and abnormal in two, both of whom were jaundiced. The clotting time was measured in 36 cases; it was normal in 25, of whom 17 were jaundiced, and abnormally prolonged in 11 of whom nine were jaundiced. The number of blood plates was estimated in 72 cases; in 57, or 80%, it was normal, while in 15, or 20%, it was decreased. In only two of the latter cases was there any abnormality of the bleeding or clotting time.

The Rosenthal liver-function test was done on 16 patients. Of these all showed a definite retention of the dye, the average being 25% at the end of 30 minutes. Ten of these 16 cases were jaundiced, and this group showed an average retention of 30% at the end of 30 minutes. Wassermann tests were done on the blood of 93 cases; there were ten positive tests, and of these patients, five were jaundiced. Two of these five, however, gave a definite history of syphilis, and two more had had positive Wassermann reactions before the appearance of the jaundice. In the remaining 83 tests, all negative, jaundice was present in 38. Thus it would seem that jaundice played little or no rôle in bringing about positive reactions.

*Note—76 cases should read 81 cases.

COMMENT

While there are many articles in the literature dealing with cirrhosis of the liver, the striking absence of reports concerned with the blood picture, together with the marked differences of opinion in regard to the occurrence of jaundice, would seem to justify the present report. Despite the amount of study devoted to the "erise hémeclasique" by Widal[1], Roch and Gautier[2], Feinblatt[3], and others, one can find no report dealing directly with the white blood count in cirrhosis of the liver. Indeed, at variance with the conclusion from the present paper, that a leukopenia is found in about one-third of all cases of cirrhosis of the portal type, the standard text-books of today, such as Osler's[4], and Nelson's[5], give as one of the most important points in differentiating splenic anemia with secondary cirrhosis from portal cirrhosis of the liver, the fact that a leukopenia does not occur in the latter condition. The only statement made by Rolleston[6] about the white blood count is that "leukocytosis does not occur except from some complication, such as hemorrhage or inflammation". Laache[7], in a detailed study of 44 cases of cirrhosis, publishes the white blood counts of only five, and makes no comment upon the fact that three of these showed a definite leukopenia. Greene, Rowntree, et al.[8], in considering the results of liver function tests in 50 cases of cirrhosis give incidentally the white blood counts of 30 cases of portal cirrhosis, concerning which no comment is made; in 14 of these cases there was a definite leukopenia, sometimes as low as 3,400, the average for all cases being 6,000.

There is a similar lack of detailed evidence to be found in the literature regarding the red blood count in cirrhosis. Osler[4] makes no mention of it at all; in Nelson[5] one finds the statement that "sometimes blood examination may show a high grade of anemia even when there have been no hemorrhages". Rolleston[6] says, "Occasionally a grave anemia develops in patients without any manifest cause, such as hemorrhage".

There is marked confusion in the literature regarding the occurrence of jaundice in portal cirrhosis. Thus Mayo[9] says, "Jaundice is seldom present and only as a terminal symptom"; Rolleston[6] states that "jaundice is not a promi-

nent feature in portal cirrhosis, but it is met with at some time in the course of the disease, as shown by statistics, in more than one-third of the cases", and one reads in Nelson[5] that "ordinarily no definite jaundice is observed throughout the entire course of the disease". Rowntree[10], in pointing out the marked difficulties of accurate classification of the cirrhoses, says, "Jaundice, although ordinarily a symbol of biliary cirrhosis, may occur in any type." Mills[11], in emphasizing that the biliary and portal types frequently overlap, states that "only about 65% of the typically portal type actually do show fluid in the abdomen, and jaundice is not uncommon". Nissen[12] found that jaundice occurred in 44 of 77 cases of alcoholic cirrhosis which he studied, a figure (57%) more nearly approaching that of the present report (50%).

SUMMARY

(1) The blood findings in 100 cases of portal cirrhosis of the liver have been analysed.

(2) A leukopenia occurred in one-third of the cases, a normal white blood cell count in one-third, and a very moderate leukocytosis in the remaining third. The bone-marrow response to hemorrhage, infection and operation was frequently diminished.

(3) Cirrhosis of the liver was found to cause a moderately severe secondary anemia, even in the absence of hemorrhage.

(4) Jaundice was present in 50% of the cases; there was no evidence that the Wassermann reaction was influenced by the presence of jaundice.

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THE EFFECTS OF ULTRAVIOLET RAYS ON THE CAPILLARY BLOOD IN ACTIVE RICKETS*

BY ABRAHAM S. SMALL, M.D.†

RECENTLY much information has appeared in the literature regarding the effect of ultraviolet rays on the blood in normal individuals and in patients with various types of anaemia.

Publications showing the effect of irradiation on platelets, red blood cells, and haemoglobin of the new born infant, such as those by Heyworth Sanford[1,2], are of interest. Sanford concludes that the platelets are increased, and that the red cells and hemoglobin at first are slightly increased, with a tendency to return to normal. This increase is even greater after irradiation in cases where the red blood cells and haemoglobin are lower than normal.

Levinsohn[3] reports a case of rickets in a negro child treated with ultraviolet rays. Blood studies showed a fairly rapid increase in red blood cells and haemoglobin content during the course of irradiation.

The studies of Laurens and Sooey[4], investigating the effect of light and darkness on the platelets and cell counts of albino rats, also the work of Miles and Laurens[5], showing the effect of light and darkness on some of the physical characters of the blood in dogs, would lead one to believe that the immediate effect results in fluctuating curves, with a slight tendency to an increase, particularly in platelets.

Donnelly[6] writes of the value of ultraviolet rays in the treatment of anaemia following hemorrhage, pernicious anaemia, and chlorosis.

During the past three years, we have observed the effect of ultraviolet rays on the capillary blood in a group of fourteen infants with active rickets. Thirteen of these patients were exposed to direct radiation through various types of ultraviolet transmitting glasses, such as Quartz glass, Corning glass, Lamplough's Vitaglass and Cellogloss (cellulose acetate).* One patient received ultraviolet rays by means of the Alpine Lamp. All patients showed clinical, serologic and roentgenologic evidence of activity.

METHODS AND TECHNIQUE

The patients were studied during the winter and spring months. Observations were made over a control period of ten to twenty days; then specimens of blood were obtained about once in seven to fourteen days for the remainder of the patients' stay, which lasted from four to twelve weeks. The children were kept as nearly as

*From the Department of Pediatrics of the Harvard Medical School, and the Infants' and Children's Hospitals, Boston. This study was made possible by a grant from the Proctor Fund, for the study of Chronic Disease.

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*For a description of the glasses, etc., the reader is referred to the BOSTON MEDICAL AND SURGICAL JOURNAL, Sept. 8, 1927.

We wish to thank Dr. Edwin T. Wyman for permission to make studies on his subjects.

possible on the same diet they had received before admission to the hospital, changes being made only to meet the needed caloric requirements. Foods such as spinach, egg yolk, liver, etc., believed to be of value in anaemia, were given sparingly or not at all.

The blood studies included enumeration of erythrocytes, leukocytes, differential counts, hemoglobin determinations, platelets, and in most of the cases, reticulocytes. As far as possible, the method employed in all determinations was uniform. After a deep puncture was made (using the same finger, toe, or heel each time), the first drop was wiped away, and the second was collected for a white count, the third drop for a red count, the fourth, fifth and sixth for hemoglobin determination and so on. As far as possible, a free flow of blood was obtained so that pressure per se would not influence our determinations. Specimens were obtained as nearly as possible at the same time of day, and on the same day of each week in order to obviate the variations in the white cells as shown by Sabin and her co-workers[7]. Also some observations made on the variations in each drop[8] further fostered the uniformity in our method.

Reticulocytes were counted after staining with cresyl blue. All hemoglobin determinations were made with the Sahli sealed colorimeter, excepting the Celloglass series, which were done with the Newcomer Standard Hemoglobinometer. The platelets were studied by the 3% Sodium Citrate Method.

RESULTS OF DETERMINATION

The red blood cells in number and form were consistent with a mild degree of anemia. In none of the cases studied was there a marked increase in number; in fact in many of the cases the number of red cells at the end of treatment was the same or less than the count made during the control period.

The white blood cells were within normal limits as to number and form. Two hundred cells were counted in each differential. Occasional immature forms were seen, but not more than are observed frequently in normal young infants. A slight increase in the number of lymphocytes was observed in several cases.

In well over 90% of the cases, hemoglobin determinations showed very little increase. In several of the celloglass series there was a comparative increase in the hemoglobin content, but when one considers the limits of experimental error (different method of determination used in this series), also that greater increases may be observed in patients after general improved care and hygiene, without heliotherapy, one feels justified in concluding that the hemoglobin determinations were altered very little by ultraviolet irradiation.

Platelet counts averaged from 200,000 to 340,000. The individual cases showed, during the course of treatment, a fluctuation of about 40,000 and excepting in cases where there was prolonged infection, (marked improvement, being noted when recovery was manifest, has been observed by others) the platelet count remained fairly constant.

Reticulated red cells were counted in most of the cases, and in practically every instance there was a fairly constant figure (plus or minus 1%).

In summary, exposure of infants with active rickets fails to reveal any outstanding changes in the capillary blood (the erythrocytes, white blood cells, haemoglobin, reticulocytes and platelets) when they are exposed over a period of time to various types of ultraviolet transmitting glasses such as Quartz, Corning, Vitaglass and Celloglass, as well as the Alpine Lamp.

The results of these studies are appended in detail:

CASE I. J. C. White male infant, aged four months.
Irradiation through Quartz window beginning 2-11-26.

Date	Hemoglobin	Red Blood Count
2-23-26	68%	3,840,000
3- 2-26	68%	3,784,000
3- 9-26	68%	3,960,000
3-15-26	69%	3,960,000
3-21-26	69%	3,080,000

CASE II. R. J. White male infant, aged 23 months.
Irradiation through Corning glass, beginning 2-15-27.

Date	2-23-27	3-16-27	3-30-27	4-14-27
Hgb.	69%	71%	71%	72%
R. B. C.	3,712,000	3,704,000	3,696,000	3,720,000
W. B. C.	9,600	8,600	8,000	8,400
Polys. Neut.	36%	37%	39%	37%
Eos.	2%	3%	1%	2%
Baso.	1%		1%	
Lymph. Small	53%	56%	54%	55%
Large	2%	1%	2%	1%
Atyp.	1%			
Monos.	5%	3%	3%	5%

CASE III. D. I. Colored female, aged 18 months.
Irradiation through Vitaglass window, beginning 2-28-27.

Date	2-23-27	3-6-27	3-18-27	3-30-27	4-14-27	4-24-27
Hgb.	49%	50%	50%	50%	51%	51%
R. B. C.	2,800,000	2,832,000	2,824,000	2,840,000	2,832,000	2,824,000
W. B. C.	8,400	7,800	6,600	8,200	6,800	7,600
Polys. Neut.	38%	36%	39%	40%	37%	38%
Eos.	2%	3%	1%		2%	1%
Baso.		1%				1%
Lymph. Small	56%	55%	54%	55%	56%	55%
Large	1%		2%	1%		1%
Atyp.	1%	1%		1%		1%
Monos.	2%	4%	4%	3%	5%	3%

CASE IV. D. V. White female infant, aged 5 months.

Irradiation through ordinary window, beginning 4-8-26.

Date	Hemoglobin	Red Blood Count
4-13-26	68%	4,488,000
4-20-26	69%	4,360,000
4-27-26	69%	4,288,000
2- 4-26	69%	4,240,000

Irradiation through Quartz window, beginning 5-5-26.

5-11-26	69%	4,260,000

CASE V. R. W. Colored male infant, aged 16 months.

Irradiation through Corning glass window, beginning 2-28-27.

Date	2-23-27	3-6-27	3-18-27	3-30-27	4-14-27	4-24-27
Hgb.	59%	60%	60%	60%	61%	62%
R. B. C.	3,760,000	3,800,000	3,792,000	3,808,000	3,824,000	3,848,000
W. B. C.	9,400	8,800	6,800	7,400	8,200	7,400
Polys. Neut.	38%	37%	39%	40%	37%	37%
Eos.	2%	1%	2%	1%	2%	1%
Baso.		1%				
Lymph. Small	55%	56%	54%	55%	56%	57%
Large			1%			
Atyp.						1%
Monos.	5%	5%	4%	4%	4%	5%

CASE VI. W. R. Colored male infant, aged 2 months.

Irradiation through Quartz window, beginning 1-18-27.

Date	1-5-27	1-13-27	1-23-27	2-13-27	3-6-27	3-18-27
Hgb.	50%	50%	50%	50%	50%	51%
R. B. C.	4,480,000	4,528,000	4,288,000	4,400,000	4,488,000	4,352,000
W. B. C.	7,800	8,400	8,800	8,200	7,800	6,800
Polys. Neut.	40%	37%	39%	38%	39%	36%
Eos.		2%	1%	2%		3%
Baso.	1%	1%				
Lymph. Small	54%	55%	54%	56%	55%	55%
Large	2%		1%		1%	2%
Atyp.	1%		2%			
Monos.	2%	5%	3%	4%	5%	4%

CASE VII. A. F. White male infant, aged 9 months.

Irradiation through Corning glass window, beginning 2-10-27

Date	2-23-27	3-6-27	3-18-27	3-30-27	4-14-27	4-24-27
Hgb.	64%	65%	65%	64%	65%	66%
R. B. C.	4,160,000	4,176,000	4,168,000	4,152,000	4,160,000	4,176,000
W. B. C.	8,600	8,400	8,000	7,800	8,400	8,200
Polys. Neut.	39%	37%	38%	37%	39%	37%
Eos.	2%	1%	3%	2%	1%	3%
Baso.		1%		1%		
Lymph. Small	57%	55%	56%	55%	54%	56%
Large	1%	2%				
Atyp.		1%			1%	
Monos.	1%	3%	3%	5%	5%	4%

CASE VIII. L. J. Colored female infant, aged 22 months.

Irradiation through Vitaglass window, beginning 1-12-27.

Date	12-20-26	12-27-26	1-13-27	1-23-27	2-13-27	3-6-27
Hgb.	62%	62%	62%	62%	62%	62%
R. B. C.	4,048,000	4,680,000	4,444,000	4,460,000	4,880,000	4,960,000
W. B. C.	8,600	8,400	6,400	26,000	8,600	8,000
Polys. Neut.	40%	38%	39%	51%	37%	39%
Eos.	1%	2%	2%	4%	3%	2%
Baso.	1%					
Lymph. Small	54%	55%	55%	40%	53%	56%
Large	1%				1%	
Atyp.		1%			1%	
Monos.	3%	4%	4%	5%	5%	3%

CASE IX. D. A. White female infant, aged 5 months.

Irradiation through Celloglass beginning 2-2-28.

Date	2-23-28	3-15-28	3-21-28
Hgb.	60%	65%	75%
R. B. C.	4,780,000	4,800,000	4,860,000
W. B. C.	14,800	12,000	12,800

CASE X. B. R. White female infant, aged 7 months.

Irradiation through Celloglass beginning 1-31-28.

Date	2-2-28	2-23-28	3-8-28	3-15-28
Hgb.	65%	66%	70%	74%
R. B. C.	4,860,000	4,910,000	5,100,000	5,000,000
W. B. C.	12,000	11,000	10,000	12,400

CASE XI. J. N. White female infant, aged 4 months.

Irradiation through Celloglass, beginning 2-15-28.

Date	2-2-28	2-17-28	2-23-28
Hgb.	85%	80%	75%
R. B. C.	5,500,000	5,300,000	5,500,000
W. B. C.	10,000	12,000	18,000

CASE XII. I. D. White female infant, aged 20 months.

Irradiation through Celloglass, beginning 2-25-28.

Date	2-14-28	2-28-28	3-15-28
Hgb.	70%	72%	76%
R. B. C.	5,740,000	5,200,000	5,100,000
W. B. C.	10,200	10,000	12,000

CASE XIII. R. D. White female infant, aged 6 months.

Irradiation through Celloglass, beginning 2-19-28.

Date	2-18-28	2-23-28	3-8-28	3-15-28
Hgb.	65%	65%	70%	75%
R. B. C.	4,500,000	5,000,000	5,000,000	5,200,000
W. B. C.	9,500	12,200	10,000	12,000

CASE XIV. C. B. White female infant, aged 4 months. (One of twins.)

Irradiation by Alpine lamp, beginning 2-2-26.

Forty-five (45) daily exposures in ascending doses.

Date	2-10-26	3-2-26	3-9-26	3;15-26	3-20-26
Hgb.	61%	62%	62%	62%	63%
R. B. C.	3,120,000	3,088,000	3,044,000	3,016,000	3,392,000

SUMMARY AND CONCLUSIONS

Fourteen (14) cases of active rickets with associated anaemia were studied with the view of observing the effects of ultraviolet rays on the anaemia.

It will be seen by a review of the cases that there is very little improvement as regards the anaemia. In fact, there is very little measureable change in any of the blood components studied, excepting that in several cases there seems to be evidence of an increase in lymphocytes. In practically all cases, however, excepting those treated by Vitaglass, and ordinary window, there is evidence of healing or healed rickets.

We conclude from these observations that ultraviolet rays, employed in the treatment of rickets, have practically no beneficial effect on the associated anaemia.

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GUIDES TO THE CLINICAL DIAGNOSIS OF CARDIAC RHYTHMS*

BY WILLIAM D. REID, M.D.†

THE diagnosis of the abnormal rhythms of the heart is often obscure, it will be granted, to the average physician; at times it appears to be unnecessarily so. In a sense the subject of the arrhythmias may be compared to a forest in which the student, confused by the mass of details, may readily get lost; the situation may be radically changed if a few well-selected trails are laid out through this forest. It is the purpose of this article to describe some of the trails which may easily be followed through this so-called forest.

SPECIAL TESTS

A comprehensive understanding of the arrhythmias is rarely obtained save by familiarity with the graphic methods of examination, i. e., electrocardiograms and polygrams. There are, nevertheless, certain simple observations and tests which are of great value in the clinical diagnosis of cardiac arrhythmias. It is essential that these tests be accurately performed and therefore a brief description of their technic is apropos.

Rate. The rate must be determined by auscultation of the precordia, since that of an arterial pulse is often unreliable due to failure of some heart beats to cause an arterial pulse wave. Also the pulse is frequently of such poor palpability that a reliable count cannot be obtained.

It is, furthermore, a common experience on palpating the pulse to obtain an erroneous impression that an irregular rhythm is present. This is due to the fact that respiratory effects sometimes cause a marked variation in the contour of the individual waves and since it is the quickness and sharpness of the pulse wave that is most readily noted by the palpating finger, the presence of small waves with rounded summits may give a sensation of delay in their time and therefore a false impression of an irregularity in the rhythm.

In counting a fast rate the examiner may find it of assistance to mark a dot on paper with a pencil and later to count the dots. During accelerated rates the difference between the first and second heart sounds is absent, and the mistake must not be made, of course, of counting both heart sounds as individual heart beats.

Exercise. It is a good rule to check all irregular rhythms associated with a cardiac rate of less than 110 to 120 per minute, by the effect of exercise. Exertion in a form that is suitable for the individual patient should be selected; a stout, middle-aged lady obviously should not be bidden to bend over until she touches the floor without flexing her knees. In the case of a patient confined to bed, raising himself from the pillow or some simple arm exercises may be sufficient. The purpose of the test in this case is not to determine the exercise tolerance as a measure of the efficiency of the heart, but is to

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enable the examiner to listen to the rhythm during the temporary acceleration of the cardiac rate. Unless the pre-ëxisting irregularity lessens or disappears after exercise, the test cannot be considered to have been successfully performed until the rate of the heart accelerates to somewhat in excess of 100 per minute. The exercise test is unnecessary if the rate is already 120 or higher. The only arrhythmia causing an irregularity in the cardiac rhythm, in which the irregularity persists or becomes more marked after a properly performed exercise test, is auricular fibrillation.

Pulse deficit. This is detected by counting the rate of the heart and then that of the pulse. The difference, if any, between these two rates is known as the pulse deficit. Some physicians prefer the term "abortive beats" for those contractions of the heart that are not recorded in the pulse. If a second observer is present, a more accurate determination can be made by one ausculting the precordia while the other palpates the artery; a single watch should be used and the signal for the start and finish be given by one of the examiners by prearrangement. The period of time should not be less than thirty seconds and preferably a full minute. If the size of the pulse deficit is to be used in guiding the therapy, it is better to take the average of three or more determinations of the pulse deficit.

A single examiner can, it is true, detect the presence of a pulse deficit by noting that some of the beats heard through the stethoscope are not present in the simultaneously palpated pulse, but experience shows that it is a rare individual who, at the same time, can determine both the cardiac rate and the extent of the pulse deficit. It is especially difficult to make these two counts simultaneously when the rhythm, as is often the case, is grossly irregular.

The detection of a pulse deficit is chiefly of use in the diagnosis of irregular rhythms; its presence indicates that the irregularity is due to either extrasystoles or auricular fibrillation. Exceptional causes of a pulse deficit are: (1) pulsus alternans, in which the weaker beats are not detectable at the wrist; and (2) obliteration of alternate pulse waves, by respiratory effects, when the rate of breathing is just half that of the heart. These latter causes of a pulse deficit are operative in regular rhythms and so do not lessen the value of the detection of a pulse deficit in the differential diagnosis of irregularities of the cardiac beat.

It should be clear that a *pulse* deficit cannot be caused by either partial heart-block with dropped beats or by sino-auricular block, for in both of these arrhythmias the ventricular beat itself is absent.

Forced breathing. If the irregularity shows any definite relationship to the phase of respiration, one can confidently exclude the presence of fibrillation of the auricles. Many instances of sinus arrhythmia are obscure, but if the patient is instructed to take deep breaths, the irregularity will be brought into line with the breathing and the presence of sinus arrhythmia will become apparent.

Inspection of the venous pulse in the neck. Information of value can be obtained only by observing the silhouette of a cervical vein and at the same time auscultating the precordia. The various waves recur so rapidly that usually their visual analysis is impossible; it is more profitable to concentrate one's attention on the detection of waves during the long diastoles of the heart. More information can be obtained by this method of examination, but it is doubtful if the physician should attempt it unless he has had the opportunity of checking his observations by polygrams or electrocardiograms; it is better judgment to attempt too little than too much with the visual analysis of the venous pulse.

Fixation of rate. Normally the cardiac rate alters in response to physiologic need, such as change of position of the body, physical exertion, etc. Whenever it is determined that the rate of the heart beat remains the same whether the patient be at rest or exercising, lying down, sitting or standing, this is strong evidence of the presence of an arrhythmia. To establish that the rate is fixed the examiner should not be satisfied without obtaining a half-dozen counts during the above-mentioned changes of bodily posture, rest and exercise. A difference of two is within the limits of error of the method, for it is theoretically possible to miss one beat at the beginning and end of the period of counting. Furthermore, it has been found that in regular tachycardias, such as paroxysmal tachycardia, the rate is not always absolutely constant, a difference of a few beats sometimes occurs[1].

Dominant rhythm. The conception of dominant rhythm arose during the years when the technical study of the arrhythmias was based mainly upon the tracings obtained by the use of the polygraph. The term "dominant rhythm" is applied to the underlying rhythm of the heart rather than to the irregularity itself; it is a rhythm which governs, more or less, the contractions of the ventricle. Dominant rhythm is revealed by: a run of four or more regular beats if these are the most forcible that are present; and by repetition of phases of irregularity however irregular such phases may be. The present tendency is to employ less technical expressions; an irregularity is described as regular in contrast to one that is irregular, gross or absolute. The absence of dominant rhythm indicates auricular fibrillation.

The determination of dominant rhythm is helpful, but I am convinced that the student who is not thoroughly familiar with the analysis of polygrams neither retains a clear conception of the meaning of the more or less technical term "dominant rhythm" nor on occasion accurately decides whether the irregularity is

"absolute" or not. Consequently, in all irregular rhythms occurring at a cardiac rate of less than 110 per minute, it is good judgment to distrust one's ability to determine the presence or absence of dominant rhythm, i. e., whether the irregularity is absolute or not. The examiner should resort to the exercise test and be guided thereby.

It is believed that it may be helpful to list the various guides in tabular form. I have already published a table[2] pertaining to the arrhythmias, but considerable observation of its use by medical students convinces me that it has not materially increased their ability to identify the various arrhythmias. Consequently a new table has been constructed in which the emphasis is placed upon the simple clinical tests and observations described above.

A. *REGULAR.* (Heart sounds recurring at uniform intervals.)

1. *Fixed rate.* (Rate does not change in response to physiologic need, i. e., change of position, exercise, etc.)

   Paroxysmal tachycardia.
   Auricular flutter.
   Complete heart-block.

   a. Less than 40 per minute.
      Complete heart-block.

   b. Rate higher than 40 per minute.

Paroxysmal tachycardia	Rate usually well in excess of 100, but slower rate is possible when complicated by partial heart-block
Auricular flutter.	caused by drugs or lesions of the bundle of His.

      Complete heart-block. (Rare form with block on auricular side of A-V node, which has become impulse centre for ventricle. Rate usually 40-60.)
      If vagal stimulation restores normal rhythm
      Paroxysmal tachycardia.

2. *Alterable rate.* (Accelerates and slows in response to physiologic need.)

   a. Normal rate. (60-100.)
      Normal rhythm.

   b. Fast rate. (100 or above.)
      Normal rhythm accelerated, induced by:
      Physiologic:—fever, exertion, excitement, hemorrhage, atropin, voluntary (rare).
      Effort syndrome. } Neurosis (cardiac). }
      Hyperthyroidism.

   c. Slow rate. (40-60.)
      Simple (physiologic) bradycardia.
      Myxedema (occasionaly).
      Sino-auricular block. } Vagal
      Atrio-ventricular rhythm. } arrhythmias.

   d. Rate less than 40.
      Sino-auricular block (rare form.)

B. *IRREGULAR.* (Heart sounds recurring at unequal intervals.)

1. *Rate 120 or higher.*
   Auricular fibrillation.

2. *Exercise test.* (Unnecessary if rate is already 120 or higher.)

   a. Irregularity persists or increases.
      Auricular fibrillation.

   b. Irregularity lessens or disappears.
      An arrhythmia other than auricular fibrillation.

3. *Pulse deficit present.* (I. e., rate at apex exceeds that in an arterial pulse.)
   Extrasystoles. } Differentiate by result
   Auricular fibrillation. } of exercise test.

4. *Forced breathing.*
   Absence of respiratory control.
   Auricular fibrillation.

Less important guides

1. Showing intermissions or apparent absence of some beats in an arterial (radial) pulse.
   Extrasystoles. } Indicated if pulse
   Auricular fibrillation. } deficit is present.
   Dropped beats of partial heart-block. } Relatively rare.
   Sino-auricular block. }

Pulse deficit absent.
Extrasystoles not heard because of:
(1) their weakness.
(2) poor auscultatory conditions,
(as thick chest wall, emphysema, etc.).
Partial A-V heart-block with dropped beats.
(1) Blocked normal auricular beats, (usually).
(2) Blocked auricular extrasystoles.
Sino-auricular block (type with absence of individual heart beats).
Auricular fibrillation (exceptionally).

2. Accelerates with one phase of respiration and slows with the other.
Sinus arrhythmia (respiratory type).

3. Faster and slower rates over periods greater than single respiratory cycles. (This rhythm may be essentially regular save during the transition from one speed to the other.)
Phasic type of sinus arrhythmia.
Auricular flutter (rarely, with change in rate of ventricular response).
Sino-auricular block (when this shows approximate halving or doubling of rate).
Partial heart-block (with change of rate of ventricular response).

4. Halving or doubling of rate.
If approximate.
Sino-auricular block.
Heart-block. (When the slower rate is less than 40 it is evidence of partial heart-block which has temporarily become complete.)
If exact.
Partial heart-block.

5. "Coupled rhythm" (beats occurring in pairs).
Extrasystoles interrupting:
Normal rhythm. } Differentiate by exercise test and
Auricular fibrillation. } degree of irregularity.
Partial heart-block (with every third beat dropped. Rare.).
Sino-auricular block (theoretically possible).

6. Rate below 40 per minute.
Complete heart-block complicated by ventricular extrasystoles.
Sino-auricular block (rare form) and ventricular escape.

Addenda

The commonest irregularity associated with insufficiency of the heart is auricular fibrillation.

Tachycardia with regular rhythm and fixation of rate, if it recurs in attacks each with an abrupt termination, is usually due to paroxysmal tachycardia. Persistence of such a tachycardia for more than two weeks is presumptive evidence against paroxysmal tachycardia; auricular flutter is more likely.

The presence of waves in the cervical veins during long diastolic periods of the heart is a sign of heart-block.

A definite and recurring change in the intensity of the heart sounds, if unassociated with the phases of respiration, is strong evidence of heart-block.

The diagnosis of pulsus alternans made by auscultation of the heart is usually incorrect; the apparent alternation is caused by extrasystoles alternating with normal beats of the heart.

Fixed regular tachycardia, replacing the irregular rhythm during the treatment of auricular fibrillation by digitalis, is due to ventricular paroxysmal tachycardia and not to flutter of the auricles.

Digitalis often changes auricular flutter to auricular fibrillation, but never fibrillation to flutter.

Quinidine may change auricular fibrillation to flutter but not the reverse.

Graphic methods of examination are needed: (1) when in doubt of which rhythm is present, (2) to confirm a presumptive diagnosis of auricular flutter, sino-auricular block, or partial heart-block. (3) An electrocardiogram is essential for the detection of intraventricular, or bundle-branch block, and of impairment of the ventricular muscle. (4) An arterial pulse tracing is the only certain proof of the presence of pulsus alternans, although, subject to certain limitations, a correct diagnosis sometimes may be made by careful auscultation of the systolic blood pressure or of the heart itself.

When the probable rhythm has been identified, it is necessary that its known features be checked against the findings in the patient. (The student who is not sufficiently familiar with the arrhythmias should, of course, refer to some recent textbook.) If the data are not sufficiently in agreement it is probable that the observations are inaccurate, or else the identification of the rhythm present is obscure and resort to an electrocardiogram or polygram is necessary.

Conclusions

The diagnosis of abnormal rhythms of the heart without the aid of an electrocardiogram or polygram is often unnecessarily obscure. The physician may, perhaps, be confused by the mass of data pertaining to this aspect of cardiac diagnosis.

There are, however, a number of relatively simple clinical tests and observations which often enable one to determine both the presence or absence of an arrhythmia and to identify which arrhythmia, if any is present.

In the case of all rhythms with a regular heart beat, the determination that the rate is fixed or constant discloses the presence of an arrhythmia.

The actual rate of the cardiac contractions gives further evidence of diagnostic value.

If the rhythm be irregular, the determination of a rate of 120 or higher per minute, or resort to an exercise test, the detection of the presence or absence of a pulse deficit, and the effect of forced breathing are the most helpful guides in diagnosis. If these tests are used with proper technique the arrhythmia causing the irregularity can often be correctly diagnosed without the aid of graphic records.

The exercise test is more reliable than the determination of the presence or absence of a dominant rhythm.

The correctness of the diagnosis made by any of the data presented in tabular form in this article should, of course, be checked by comparison with the facts known about the individual rhythms of the heart. Reference should be made to a suitable textbook if necessary.

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THE USE OF INSULIN IN AN OUT-PATIENT DEPARTMENT*

BY HARRY BLOTNER, M.D.†

INTRODUCTION

WITH the advent of insulin many problems in connection with the treatment of diabetes have changed in a remarkable fashion. For example, in most cases, as a rule, it is now an easy matter to control glycosuria. Complications like coma or gangrene are often preventable. Profound inanition with debility and weakness are unnecessary evils and seldom seen. Treatment may still be expensive, however, and its cost may be a very important matter to many sufferers with the disease. A simple plan of management, therefore, which saves both time and money, and yields satisfactory results, is highly desirable.

Fitz has suggested that many diabetics, now often sent unnecessarily to the wards of the various hospitals, can be treated efficiently and economically as out-patients. He has reported an illustrative case, which instead of being hospitalized, was, as an out-patient, desugarized with insulin and given a working knowledge of how to take care of himself within a period of three hours. Lemann, Gray and Rolly have each reported cases treated in a somewhat similar intensive fashion. This paper describes a method of treatment which has been used in a series of cases in the Diabetic Clinic of the Out-Door Department of the Peter Bent Brigham Hospital in order to present additional evidence that insulin can be used satisfactorily and safely in the treatment of ambulatory cases, and that the essentials of proper diabetic therapy can be simply learned.

CLINICAL MATERIAL

Forty-eight diabetic patients coming to the Diabetic Clinic of the Peter Bent Brigham Hospital were selected for this study. The group comprised thirty-nine women and nine men, varying in age from thirty to seventy-three years and with an antecedent diabetic history ranging in duration from several weeks to several years. That many of these patients found it difficult to grasp the principals of modern dieteties is shown by the fact that more than half were foreign-born and did not understand or speak the English language readily. All, however, were considered to need the help of insulin. The most common factors which led to their selection for insulin therapy were weakness, infection, malnutrition, or the persistence of sugar in the urine after a reasonable attempt to adhere to an adequate diet without the use of the drug.

THE ORGANIZATION OF THE DIABETIC CLINIC

The organization of the Diabetic Clinic of the Peter Bent Brigham Hospital, perhaps, should be described. A patient, on entry to the Out-Door Department of the Hospital, is sent to the General Medical Clinic for diagnostic survey. Here a case history is made and a complete physical examination is recorded. The Diabetic Clinic meets once a week and receives the new, untreated diabetic cases referred to it from the general clinic or follows up its own patients, who may have been members of this class for many years.

The staff of the Clinic consists of a doctor, who sees each patient and orders individual food and insulin prescriptions to fit the needs of the different cases; one or more dietitians, who fill the diet prescriptions given them by the doctor and teach the patients how to prepare their meals; a nurse, who instructs the patients how to use Benedict's Solution, how to measure and inject insulin and how to sterilize and take care of an insulin syringe; and a combined social worker and clinic secretary, who keeps track of appointments and is closely affiliated with whatever social service work is necessary. The patients are weighed at each entry and a urine sample from each one is analyzed for sugar. A qualitative test only is made and quantitative tests are not performed. Blood sugar determinations are not made as a

*From the Medical Clinic of the Peter Bent Brigham Hospital. The expenses of this investigation have been defrayed, in part, by a grant from the Proctor Fund of the Medical School of Harvard University for the study of chronic disease.

†For record and address of author see "This Week's Issue," page 503.

routine, but only in selected cases. The patients are not taught to weigh food but to utilize common household measures. Every effort is exerted to make of diabetes a simple disease; the patients are merely taught how to test their urine and keep sugar-free, to follow their diets and to report to the Clinic periodically for follow-up examination or if any unexpected accident occurs.

THE USE OF INSULIN IN AN OUT-PATIENT DIABETIC CLINIC

In the forty-eight cases of this series, selected for insulin therapy, the following general plan of treatment was followed. At the patient's first visit to the Clinic he was given a prescription diet, low in protein and containing variable amount of carbohydrate and fat. The total calories were adjusted in proportion to the patient's weight; stout patients were ordered not more than 20 calories per kilogram of body weight, while thin, undernourished patients were ordered 30 calories or more per kilogram of body weight. Sixty to 70 grams of protein were used arbitrarily as the protein ration, this being sufficient to allow an egg for breakfast and supper each day and a reasonable helping of meat, fish, or chicken for dinner. The carbohydrate fraction ranged between 60 and 120 grams, and included a small amount of cereal, fruit and green vegetables. Uneeda crackers, potato and even a little bread were added in the diets with high carbohydrate allowance. The fat, in butter, cream or olive oil, varied with the total calories.

TABLE 1

ILLUSTRATIVE TEST DIABETIC DIET FOR USE IN AN OUT-PATIENT DIABETIC CLINIC

(This diet contains approximately 60 gm. of Carbohydrate, 60 gm. of Protein and 120 gm. of Fat)

Breakfast:	
Orange	½
Egg	1
Cooked cereal	¼ cup, or ½ Shredded Wheat Biscuit
Butter	1 level tablespoonful
Tea or coffee	
Heavy cream for day	½ cup
Dinner:	
Lean meat or fish	1 large serving
3% vegetables	2 saucerfuls
or	
6% vegetables	1 saucerful
Butter	1 level tablespoonful and 1 level teaspoonful
Orange	1
Tea or coffee	
Supper:	
Egg	1
3% vegetables	2 saucerfuls
or	
6% vegetables	1 saucerful
Butter	1 level tablespoonful
Orange	1
Tea or coffee	

No sugar or sweets of any kind allowed.
No bread of any kind allowed.
Eat nothing except what is listed.

Besides such a diet list, each patient should be equipped with a list of the 3% and 6% vegetables and with special recipes describing how to make food-valueless bran cakes, mayonnaise salad dressing with mineral oil base and agar jelly desserts.

The purpose of this diet was to serve as a base-line from which to determine whether or not a given case should receive insulin. At the first visit, each patient was advised to eat the diet ordered for a period of time and if, upon subsequent observation, glycosuria still persisted, he was then given insulin and told how to clear up the glycosuria with the drug.

THE ADMINISTRATION OF INSULIN

It proved a simple matter to train patients to take insulin. An injection of a dose was given in the Clinic to those requiring this drug so that they might observe the technique of sterlizing the syringe and needle, of measuring the dose, of selecting the proper site for injection and of realizing how it felt to receive an injection. They were informed of the symptoms of hypoglycemia and what to do in case a reaction occurred. After receiving their first injection they were sent home, being given half an orange to carry with them in case a reaction developed. They were told to take one or more injections a day about thirty minutes before a meal, to observe the effect of insulin upon the urine, and to report at later stated intervals.

At the outset small doses of insulin were ordered. As the method proved to be effectual and safe, larger doses were administered, as can be seen by the following table. It is interesting that no trouble from severe reactions was encountered.

TABLE 2

DOSAGE OF INSULIN USED IN THE AMBULATORY TREATMENT OF DIABETES

Insulin Units			
Morning	Noon	Night	Number of cases
5	0	5	3
5	5	5	2
10	0	0	7
10	0	10	29
10	10	10	3
15	0	0	1
15	0	15	1
20	0	20	1
25	0	25	1

Twenty-nine of the patients were advised to take ten units of insulin twice a day. With such insulin dosage and a diet of the type outlined, the urine usually became sugar-free in a few days and it was then possible either to increase the allowance of food or to diminish the amount of insulin. In cases in which glycosuria persisted, the amount of insulin was in-

creased. The experiment of asking patients to administer the drug three times a day did not work especially well. They much preferred taking it once or twice a day, and more frequent doses were rarely needed.

The following case is a fair example of the results generally obtained.

A carpenter, fifty years old, entered the Out-Door Department on March 15, 1927. Four months earlier he noticed that he was drinking a large quantity of water, that he was making a great deal of urine and losing weight and strength in an alarming fashion. He was found to have a negative physical examination and sugar in the urine. He was referred to the Diabetic Clinic for treatment on March 16th, 1927. He was given a diet containing 120 grams of carbohydrate, 60 grams of protein and 140 grams of fat, and because he was so weak and undernourished, he was given insulin immediately, instead of after a week's observation. He was instructed to take ten units of insulin before breakfast and supper and to keep a record of his own urine tests. He returned two weeks later with the following report:

TABLE 3

A DIABETIC PATIENT'S NOTE-BOOK AT THE BEGINNING OF INSULIN TREATMENT IN THE OUT-DOOR DEPARTMENT ON A DIET OF 120 GM. OF CARBOHYDRATE, 60 GM. OF PROTEIN AND 140 GM. OF FAT AND 10 UNITS OF INSULIN TWICE A DAY

Date	Time	Result of Benedict's Test
March 16, 1927	Morning	Red First dose of Insulin given
	Evening	Yellow
17,	Morning	Yellow
	Evening	Greenish Yellow
18,	24 hour sample	Greenish Yellow
19,	"	Green
20,	"	Green
21,	"	Green
22,	"	Blue
23,	"	Blue
24,	"	Green
25,	"	Blue
26,	"	Blue
27,	"	Blue
28,	"	Blue
29,	"	Blue

He stayed away from work for the first two weeks because he felt as though he would like a vacation and so that he might pay more attention to his illness. Such loss of time from work was voluntary and not absolutely necessary. His urine remained sugar-free continuously. He never had any serious insulin reactions and rarely noted the onset of any hypoglycemic symptoms.

Subsequently, as shown in Table 4, he has continued to get along very happily. He has stayed sugar-free except for a brief period when there was a temporary lowering of tolerance due to an acute respiratory infection with fever. He carried himself through this by increasing the insulin dosage for a few days. He has gained weight and strength, has been able to increase his diet, at the same time to cut down his dose of insulin, and work as hard as he chose.

THE RESULTS OF INSULIN THERAPY IN AMBULATORY CASES

The majority of patients in this series, treated in the manner outlined, have progressed very satisfactorily over periods in time ranging from a few weeks to two years. Twenty-five cases have gained weight, one patient gaining twenty-nine pounds in as many months. There have been a few failures, due to intercurrent complications or to lack of co-öperation. One patient, for instance, was afflicted with a cerebral hemorrhage which appeared to cause the reappearance of glycosuria for a time, and another developed coronary thrombosis. Three were entirely unco-öperative and either did not take insulin as instructed, or with insulin, paid no attention to their diet. On the whole, thirty-eight of the forty-eight cases (80 per cent.) have improved very definitely and now claim that they feel much better than at the beginning of treatment, or as well as they have ever felt in their lives. The method of treatment, therefore, appears to have proved satisfactory as judged by practical results and is certainly simple and economical for the patient.

CONCLUSION

Diabetes is a common disease, amenable to treatment in the vast majority of cases. Therapy can be made either complicated or simple, either expensive or cheap. Many doctors feel that the best therapeutic results are only obtainable through a more or less prolonged period of hospital control. From the patient's

TABLE 4

THE PROGRESS OF A DIABETIC PATIENT TREATED WITH INSULIN IN THE OUT-DOOR DEPARTMENT

Date	Urinary Sugar	Units of Insulin	Weight	Diet	Remarks
Mar. 16, 1927	+++	10-0-10	110	C120,P70,F140	
Mar. 30, "	0	10-0-10	113		No insulin reactions.
Apr. 20, "	0	10-0-0	115		Feels fine.
May 18, "	0	10-0-0	115½	C140,P80,F160	Feels fine.
May 25, "	0	10-0-0	111		Had temperature of 101.6° for several days and required insulin 10-0-10 to keep sugar-free.
June 15, "	0	10-0-0	114	C180,P80,F175	Feels fine.
July 13, "	0	10-0-5	115		Required insulin 10-0-5.
Sept. 14, "	0	10-0-5	119		Never felt better.
Nov. 9, "	0	10-0-5	120		Never felt better.
Jan. 11, 1928	0	10-0-5	119		Feels fine, working hard.

viewpoint, this may be not only time-consuming, but also financially burdensome.

In the Diabetic Clinic of the Peter Bent Brigham Hospital Out-Door Department a group of patients with diabetes has been treated with insulin in an attempt to show that insulin can be used safely and satisfactorily in the management of ambulatory cases and that a period of hospitalization is by no means always necessary for good therapeutic results.

Forty-eight cases of average intelligence were selected for the study. These cases were taught in the Out-Door Department to care for themselves with insulin, diet and tests for sugar in the urine. Thirty-eight of these cases (80 per cent.) showed satisfactory clinical improvement after a sufficiently long period of observation. Intercurrent and unavoidable complications or lack of co-öperation were responsible for the cases which did not improve satisfactorily. No serious reactions were obtained when insulin was utilized in this way. This method of management appreciably lessens the cost of diabetic treatment, resulting from the expense of hospitalization and from loss of working time, and appears to be safe and useful.

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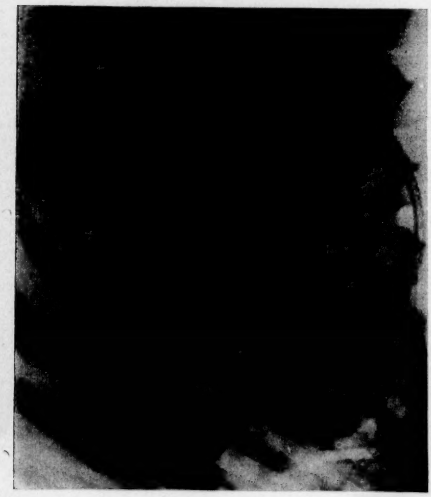
FOREIGN BODY IN THE LIVER

BY STEPHEN E. PERKINS, M.D.*

REPORT OF CASE, July 26th, 1927

L. G., a school boy, aged eleven, was struck by an automobile as he was crossing the street. The child



was struck on the right side, at the level of the seventh and eighth ribs, making a torn and punctured wound. He was immediately removed to the hospital and suitable pressure dressings applied. Exploratory operation, the following morning, disclosed a collapsed lung, the diaphragm torn from the ribs, and the kidney and liver capsule punctured. There appeared to be a round hole in the liver filled with black clotted blood.

In making the repair, the diaphragm was sutured to the ribs, the kidney and liver capsule stitched and a drain inserted. Probing at this time did not disclose a foreign body, nor was the presence of one suspected.

The child recovered from the anaesthesia with moderate rapidity and seemed fairly comfortable. The temperature continued over a period of weeks of the septic variety, ranging between 100 and 104, and there was considerable discharge from the wound. The pulse was rapid, staying irregularly between 105 and 140. Respiration not markedly disturbed.

X-ray, on August 22nd, showed the presence of an oblong plate embedded in the lower right lobe of the liver. Investigation showed the loss of the door knob on the car by which the child was struck. Owing to parental objection, no attempt at removal was made. The patient was discharged from the hospital during October with the wound healed and the temperature normal; the only disturbance manifesting itself at this time being a decided irregularity in the pulse rate, which would shoot frequently to 118-120 with the least movement of the trunk.

The child has now resumed his school duties and seems able to do anything another child of same age would attempt. There has been no nausea, indigestion or other gastric disturbance, and a progressive normal gain in weight has been observed.

*For record and address of author see "This Week's Issue," page 503.

Case Records
of the
Massachusetts General Hospital

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY R. C. CABOT, M.D.

F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 15101

JAUNDICE AND ASCITES AFTER OPERATION FOR PEPTIC ULCER

MEDICAL DEPARTMENT

First admission. An unmarried Irish-American fur finisher sixty-five years old entered June 24 complaining of stomach trouble of ten years' duration and severe pain and vomiting for four and a half months.

For ten years she had had gas, sour eructations and a burning or gnawing sensation in the pit of the stomach coming on an hour after meals and relieved by soda and food. She had periods of complete freedom lasting from two to six weeks. She occasionally vomited. In February, four and a half months before admission, the symptoms changed to a severe deep sharp "knotting" pain in the epigastrium coming on immediately to two hours after every meal, relieved by vomiting, which followed almost every meal. She did not vomit blood. Her weight had fallen from 165 pounds in February to 140 pounds. Four weeks before admission X-ray examination made at another hospital showed a small projection from the lesser curvature of the stomach in the region of the media. The antrum was narrowed but not irregular in outline. The duodenum was very large, regular in outline. At five hours the stomach was empty. At twenty-four hours the head of the meal was at the transverse colon. The cecum was fixed and there was tenderness over it.

Her mother died of shock, one brother of cancer. A nephew had lived with her fourteen days before dying of tuberculosis.

She had had worms at times since childhood, round worms several times, flat worms five years ago and again possibly four weeks ago. Ten years before admission she was in bed six days with "pneumonia"—a little fever, cough and a few mouthfuls of blood. Four years before admission she had "pleurisy"—pain on the left side, worse on cough and deep breathing. For two years her ankles had occasionally swelled during the day. She had urinated once or twice at night as long as she could remember. For a year she had had slight white vaginal discharge. For four weeks she had had herpes zoster.

Clinical examination showed a woman with evidence of some loss of weight. The skin showed red atrophic scarring on the right side of the face and neck and the right shoulder (herpes zoster). The heart and lungs were not remarkable. There was definite sharp tenderness in the midepigastrium. The rest of the examination was negative.

Before operation urine normal in amount, specific gravity 1.019 to 1.026, a few to great numbers of leukocytes at three examinations, red blood cells at one, many bacteria at two. Culture from a catheter specimen showed a profuse growth of colon-like bacilli. Renal function 45 per cent. Blood before operation: 5,800 to 6,000 leukocytes, 71 per cent polymorphonuclears, hemoglobin 65 to 75 per cent, reds 4,150,000 to 3,590,000, slight achromia. Wassermann negative. Non-protein nitrogen 28. Fasting contents of stomach: 18 cubic centimeters of thin yellowish fluid, no free hydrochloric acid, guaiac positive, total acid 7. Test meal: 12 cubic centimeters of thin pale fluid, no free hydrochloric acid, total acid 7, guaiac negative. Stools, guaiac very strongly positive July 1, negative at three earlier examinations.

Before operation temperature 98.2° to 99.5°, pulse 70 to 100, respirations 16 to 28.

X-ray examination showed a well defined projection from the lesser curvature in the middle third of the stomach, slightly less than one centimeter in diameter. The first portion of the duodenum was normal in contour but slightly dilated. A film of the chest showed several calcified glands at each hilus and some thickening of the root shadows suggesting a moderate degree of fibrosis.

The patient was put on the first week gastric régime. She vomited once on the second day; afterwards not at all.

July 6 operation was done. She had considerable nausea and vomiting and improved slowly. The stomach was washed three times. She ran a slight temperature.

July 27 X-ray showed that the stomach contained about two-thirds of the motor meal at the end of five hours. During the examination a very small amount of barium left the stomach. The head of the motor meal had reached the terminal ileum.

July 29 the patient was still weak and anemic but quite comfortable. She was discharged on a five-meal gastric diet.

History of interval. She was followed in the Gastro-Intestinal Clinic of the Out-Patient Department. A month after her discharge she reported some swelling of the feet and shortness of breath and was put upon digitalis. She stopped this after she had taken a dozen tablets. She had bilious attacks with occasional vomiting every three or four weeks. At the end of a year these stopped. In January she reported pain in the scar and "rheumatism". In February X-ray examination showed about 10 per cent. of gastric residue. The stomach emp-

tied normally through the duodenum. The second and third portions of the duodenum were moderately dilated.

Second admission. She was not seen again until the following April, when she entered with an impacted fracture of the head of the humerus and a Colles fracture of the left wrist. She was in the hospital six weeks at this time. The stomach condition is not mentioned. She had gained 16 pounds and was feeling very well. At this time the heart was slightly enlarged. There was a systolic murmur over the precordium and a faint diastolic murmur over the left border of the sternum.

Third admission. June 15, three weeks after her discharge, she reëntered with a history of increasing swelling of the legs and abdomen.

She now gave a history of urination twice almost every night, whereas up to the past year she had only occasionally urinated twice at night. For the past year she had had numbness of the hands and forearms when she got up in the morning, disappearing on exercise or massage. She had forgotten about the swelling of the feet and shortness of breath reported the October after her first discharge and when reminded of it ascribed it to her weakened condition following the operation.

Two weeks before admission she began to have swelling of the legs, relieved by lying down. The "cords" in her thighs and legs were painful. These responded well to massage. For four days her abdomen had been swelling. She had had no dyspnea or other cardiorespiratory symptoms and no gastro-intestinal symptoms.

On clinical examination she was well nourished (weight 181), lying on two pillows breathing with difficulty but in no real distress. Chest expansion was limited. The point of maximum impulse of the heart was felt in the fourth space 1.5 centimeters outside the nipple line. The left border of dullness was 10.5 centimeters from midsternum in the fifth space, 2.5 centimeters outside the midclavicular line. The sounds were of good quality. The pulmonic second sound was accentuated. The action was normal. No murmurs or thrills were made out. The brachial arteries were hard. The radials were not remarkable. There were fine inspiratory râles and increased fremitus at the right apex posteriorly and coarse crackling râles at both bases front and back. The abdomen was large, tense, markedly tympanitic in the upper region and toward the flanks, where there was shifting dullness but no fluid wave. Palpation was impossible. There was no suprapubic dullness. Slight subcutaneous edema extended up to the level of the diaphragm, front and back. The entire lower extremities showed edema, most marked in the lower legs and extending up over the sacrum and back and over the abdominal wall. Vaginal examination showed nothing significant. The pupils were normal. There was arcus senilis, most marked in the right eye, and beginning cataract formation in both eyes, more marked in the left. No abnormalities were noted in either fundus. The left was imperfectly seen. Slight tortuosity of the vessels.

Urine: amount normal, specific gravity 1.010 to 1.022, a slight trace of albumin at one of six examinations, sediment loaded with leukocytes at four of seven examinations, one a catheter specimen, 4 to 15 leukocytes at two more, many red cells at three, 10 per field at a fourth. Three urine cultures, two from catheter specimens, showed colon bacillus. Blood: 5,300 to 24,800 leukocytes, polymorphonuclears 50 to 58 per cent, hemoglobin 60 to 65 per cent, reds 3,650,000 to 2,550,000 to 3,500,000, moderate anisocytosis and poikilocytosis, reticulated cells 0.5 per cent to 2.8 per cent to 0.8 per cent. Hinton negative. June 15 icteric index 15, June 30 75. Non-protein nitrogen 18. Fasting contents of the stomach: no free hydrochloric acid, total acidity 8, guaiac negative. Test meal: no free hydrochloric acid, total acidity 28, guaiac positive. Stool, guaiac negative at all of five examinations. Vomitus June 30, guaiac very strongly positive. Cervical smear: no Gram-negative intracellular organisms seen.

X-ray examination showed the heart shadow a little wide. There was obscurity of both bases which however may have been due to heavy soft tissue shadows.

Temperature 98° to 103.7°, June 22 to 27 not below 100.2°. Pulse 70 to 107. Respirations 16 to 30.

The day after admission the patient showed no dyspnea while lying nearly flat. There was slight cyanosis of the lips and tongue, considerable ascites, pitting edema of the legs, abdominal wall and sacral region.

June 20 abdominal paracentesis was done and 4,500 cubic centimeters of slightly turbid straw colored fluid was removed, specific gravity 1.006, total cells 177, leukocytes 132, red cells 45, polymorphonuclears 2 per cent, lymphocytes 97 per cent, large mononuclears 1 per cent. About 20 epithelial cells and 93 red cells were seen in the area in which the leukocytes were counted. Culture: no growth.

The patient had pain and marked tenderness in the right flank. A blood consultant found a tendency to macrocytosis in the smear. By his advice half a pound of raw liver was given daily beginning June 22. There was considerable elevation of the temperature, pulse and respiration. The patient was in a critical condition. Two days later the temperature was slightly lower and the distention less. A van den Bergh test gave an immediate direct reaction of 9.75 milligrams. June 27 she vomited the liver and had considerable distention. She grew steadily weaker, though the temperature reached normal June 28. She was nauseated. The abdomen was very tender, chiefly in the left upper quadrant, left flank and epigastrium. There was disten-

tion. The ascites seemed to be reaccumulating. The liver diet was again started. June 29 she was given 1000 cubic centimeters of 5 per cent glucose intravenously and the next day 750 cubic centimeters of 5 per cent glucose intravenously and 1750 cubic centimeters of 2.5 per cent glucose subpectorally. The jaundice had increased markedly in the past forty-eight hours. The icteric index reached 75. July 1 she died.

Discussion

BY RICHARD C. CABOT, M.D.

NOTES ON THE HISTORY

We have here the following characteristics brought out by the history-taker; that it was a long and not a short history, that it was intermittent and not continuous, and that it was relieved by soda and by food. These three things are what we look for in ulcer, but we may have to change our opinion later.

Taking the history first, this is the picture of ulcer with perforation, not of cancer I should say. Of course at sixty-five we are always a little dubious about a diagnosis of ulcer, but the X-ray points that way and not the other, I should say, very distinctly.

I do not believe the illness ten years ago was pneumonia. She would have been in bed more than six days. The blood would be all right. People do sometimes spit pure blood in pneumonia. With the history of pleurisy one wonders whether she did not get tuberculosis at one time or another.

The nycturia is probably the habitual type and not significant of kidney disease.

Local tenderness as a symptom of ulcer has lost caste very much. Thirty years ago people in examining the epigastrium of patients suspected of having ulcer and finding a small tender spot said, "That is the ulcer." But later it was often found either that there was no ulcer or that it was somewhere else. So to-day aside from the tender spots palpated by the radiologist, who can see what he is doing, we do not pay much attention to tenderness in cases where ulcer is the problem.

Nothing is said about this being a catheter specimen of urine, so we cannot say anything about the sediment.

The absence of free hydrochloric acid makes us a little more suspicious of cancer. But we do see quite a number of ulcer cases without hydrochloric acid on any single examination. If it had been repeated and we had still had no hydrochloric acid at any time we should feel more uncomfortable about our diagnosis of ulcer.

If I had been left to myself to interpret the X-ray plate I should not have supposed that the pyloric portion was normal. The duodenum is on the other side. They say nothing about it, so I take it it is normal and that this projection is the only definite abnormality. The projection corresponds to a form of perforation seen in ulcer. I have never seen that sort of tab from any perforation of cancer. I may be wrong about that. The suggestion of pulmonary fibrosis perhaps strengthens a little the guess I spoke of before, that she might at some time have had tuberculosis.

"Gastric régime" means gastric ulcer régime ordinarily, not cancer.

I think the pre-operative diagnosis will be ulcer.

PRE-OPERATIVE DIAGNOSIS

Penetrating ulcer of the stomach.

OPERATION

Gas and ether. Billroth I operation. Right paramedian incision. On the posterior wall of the stomach near the lesser curvature and about four centimeters from the pylorus was an induration showing a crater one centimeter in diameter and involving also a limited area of gastrohepatic omentum. The duodenum, gall bladder and remainder of the peritoneal cavity were negative. On account of the age of the patient and the induration of the mass resection seemed advisable. The stomach was tied off and clamped. Oblique division including the ulcer. The duodenum was cut across just beyond the pyloric ring, thus removing the pyloric third of the stomach and rather more than one-half of the lesser curvature. The cut end of the stomach was partially closed from the lesser curvature downward. End-to-end anastomosis of the stomach with the duodenum.

PATHOLOGIC REPORT

The pylorus and contiguous portion of the stomach containing a small ulcer one and one-half centimeters in greatest diameter.

Microscopic examination shows the base of the ulcer composed of fibrous tissue, which extends through all the coats. Its surface is covered with a vascular inflammatory tissue. There is no atypicality in the mucous membrane.

Chronic ulcer.

Further Discussion

The omentum was adherent outside the stomach.

They are not very sure still what they are dealing with.

I should say from the interval history that we are getting a very good result. A year has passed after operation, as I understand it, and very little is said about stomach trouble.

At the second admission it is quite striking that her stomach condition was not mentioned. Things must have been going very well.

At the third admission it seems to have come to be a cardiac instead of a gastro-intestinal case.

NOTES ON THE PHYSICAL EXAMINATION

This record leaves me in doubt as to whether there is fluid in the abdomen or not. In view of the edema of the legs I should assume that there was, but from the physical signs given here I could not be certain. (Later they commit themselves to "ascites.")

I do not know what to stay about this urine examination. There does not seem to me any clear evidence of nephritis. She seems twice to have had a colon bacillus cultivated from a catheter specimen, and rather more pus than we should expect. But she has had very little in the way of symptoms from the bladder or any part of the urinary tract. So I am not sure how to interpret that.

The reticulated red cells went from about normal to about five times too much.

There was a low gravity tap fluid, a transudate rather than an exudate.

DIFFERENTIAL DIAGNOSIS

Certainly this is not at all an obvious case. I feel much in the dark. We start off with a record of what seems perfectly clearly a gastric ulcer; what the pathologists testified to showed no evidence of being cancer, and yet towards the end we wonder how her jaundice is to be explained unless from malignant disease, and we wonder about ascites. Certainly the ascites cannot be made out cardiac in any way that I can see, nor can I make it renal. I think it is an ascites of local origin, something in the peritoneal cavity, and that that something is the same thing that causes the jaundice. Ordinarily when we get that combination of persistent jaundice and ascites we say malignant disease.

Of course cirrhosis of the liver can give both. It does not ordinarily give so much jaundice. We have no evidence of any other thing that I can think of that will cause those two symptoms. It seems to me it must be either malignant disease or cirrhosis of the liver. Thrombosis of any of the big veins, the vena cava inferior for instance, would have shown more evidence of a collateral circulation and probably not so much jaundice.

Can we connect any of these things with the previous history of stomach trouble? I think not. If she had cancer in the first place, this might be metastasis in the liver. But how can we say so when she had a microscopic examination which seems to prove the contrary?

Can her possible tuberculous infection be connected in any way with the later condition? I think not. She has not the fluid that goes with tuberculous peritonitis. Tuberculous peritonitis does not produce jaundice. I do not believe that any tuberculosis that she may have had in her lungs has anything to do with her death.

MISS PAINTER: The X-ray interpretation was that the lungs did not show tuberculosis.

DR. CABOT: There is still less reason then to think of that in connection with the abdominal symptoms.

She has something which produces a grave anemia, an anemia which was suspected of being pernicious. But I do not think anybody would say they had very good evidence. They had one very important piece, macrocytosis, but I do not see that anybody has measured the cells, and we have very little else to suggest that disease. It seems to me much more probable that it was a secondary anemia, secondary to the same thing that produces ascites and jaundice. There are three things,—anemia, ascites, and jaundice, which it seems to me must be due to the same cause.

Can the jaundice be the jaundice that goes with pernicious anemia? I should not think so. I have never known an icteric index as high as 75 in pernicious anemia. And pernicious anemia will not account for her death. One cannot die of pernicious anemia with so many red cells as she had even at the lowest count, two and a half millions.

Can she have died of gall stones? People have died of gall stones unoperated. But I do not see how she can. Gall stones do not account for ascites. She has never had pain.

I cannot go any further. I am very much in the dark. I feel as if the cause of death was a local abdominal lesion, presumably in the liver, and I can think of nothing better than malignant disease. But of course primary malignant disease of the liver is very rare and we have nothing to which we can make it secondary. But I think I can say nothing better than obstructive neoplasm in or near the liver, in the liver or obstructing its ducts.

A STUDENT: Do not the achlorhydria and numbness fit in very well with pernicious anemia?

DR. CABOT: Yes. That is additional evidence going with the possibility of pernicious anemia. But I cannot get away from the fact that she died, and that, so far as I know, people do not die so plentifully supplied with red cells.

A STUDENT: Would it be possible that a carcinoma would develop on the site of the portion of ulcerative tissue that was not removed?

DR. TRACY B. MALLORY: I think a certain number of carcinomas do undoubtedly develop on the bases of ulcers, but it would be a bad slip on the part of the pathologist if nothing had been found to suggest it in the material removed at operation.

DR. CABOT: That is, if everything went right it could not be.

A STUDENT: How about this "rheumatism" that she came in with, and the two fractures?

DR. CABOT: Do we know anything more about the cause of those fractures?

MISS PAINTER: Is it a question of metastasis? The X-ray report was that there was no evidence that the fractures were metastatic.

DR. CABOT: Of course we should like to

know what the trauma was, whether it was a thing that would have broken anybody's bones or a very slight injury.

MISS PAINTER: She fell in the street and struck her shoulder against the curbstone, falling heavily on her wrist.

A STUDENT: You don't account for the continued absence of free hydrochloric acid and the positive guaiac after the operation.

DR. CABOT: That is a good point. I do not see how to account for it. All we can say is that there are a good many people in various conditions such as jaundice and ascites from whatever cause who have absence of free hydrochloric acid. But it is puzzling, I think, especially with such good digestion as she apparently had.

A STUDENT: Does not pernicious anemia quite commonly follow resection of the stomach?

DR. CABOT: I have heard that there are such cases, especially since we have had the liver treatment and the various efforts to explain the liver treatment. I have heard of cases of pernicious anemia originating after operation on the stomach. I have never known any myself.

A STUDENT: Is it possible that she died of heart failure, decompensation, perhaps helped by the pernicious anemia?

DR. CABOT: That is a perfectly proper suggestion, but it does not seem to me that we have enough wrong in the heart. The heart apparently is going along perfectly well and has no murmurs. That of course would be a pretty good way out of it if we could call it pernicious anemia and think of some other cause of death aside from pernicious anemia.

A STUDENT: Could it be metastatic liver cancer?

DR. CABOT: Yes. If I knew nothing about the report I should say that was gastric cancer in the beginning and that would run along perfectly naturally. But we are faced with this perfectly definite evidence on the other side.

A STUDENT: Could it be an intestinal worm?

DR. CABOT: No; I don't think any of the local worms have anything to do with her anemia. The common worm that does is the fish tapeworm. But we have no evidence of that, and it is pretty hard to get one in the places inhabited by this patient.

A STUDENT: Is any blood pressure recorded?

MISS PAINTER: Three days before death it was 130/55. At the second admission it was 135/55.

DR. CABOT: I should think then that we have no evidence of abnormality except a rather high pulse pressure.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Portal cirrhosis.
Acute yellow atrophy.

DR. CABOT'S DIAGNOSIS

Obstructive neoplasm in or near the liver.

ANATOMIC DIAGNOSES

Toxic cirrhosis of liver.
Atelectasis of lung.

DR. MALLORY: The one finding of significance at the autopsy was a markedly atrophic, cirrhotic liver. It weighed 890 grams. The surface was thrown into marked nodules which varied greatly in size, from a few millimeters up to nearly the size of a hen's egg. That is the type of liver which ordinarily we classify as toxic cirrhosis, which, in some instances at least, apparently follows a non-fatal acute yellow atrophy. There was a considerable amount of ascites still present. In spite of their tapping about 5000 cubic centimeters remained.

The stomach had healed completely. There was no remnant in the way of scar to be seen of the gastrectomy.

The pleural cavity showed apical adhesions but no marked tuberculous scars.

The heart was small, weighing 250 grams, entirely negative in appearance. The kidneys, ureters and bladder likewise were negative. There was no evidence of pyelonephritis.

A STUDENT: Did you find any cause for the urinary findings?

DR. MALLORY: No.

A STUDENT: Can you get an anemia with cirrhosis?

DR. MALLORY: Yes.

A STUDENT: What was the cause of death?

DR. MALLORY: Simply cirrhosis, I imagine.

DR. CABOT: I don't see why we did not all make that diagnosis. It seems to me obvious now. I do not see anything wrong about it except the queer size of the red cells. Ordinarily we have a marked secondary anemia. Except the rather too marked jaundice there is nothing against cirrhosis in the whole of the case.

A STUDENT: Did the bone marrow show anything?

DR. MALLORY: The bone marrow was not examined.

DR. CABOT: We do not see much cirrhosis in women, and I understand that this was not the ordinary type?

DR. MALLORY: No, there was no alcoholic history. This is the type we see more commonly in women.

A STUDENT: Is there anything in the history to suggest a toxic cirrhosis?

DR. CABOT: No. I do not know what the history of toxic cirrhosis is.

A STUDENT: Don't they usually have some history of working in phosphorus?

DR. CABOT: No, they don't usually have any history of any kind,—just unexplained jaundice in most cases.

DR. MALLORY: One possible point of interest is that the liver lesion in appearance suggests a quite old lesion. One cannot help wondering if it was not present at the time of the operation, at least in considerable degree, and was not noticed.

CASE 15102

DYSPNEA AND CHEST PAIN

Medical Department

An American iron moulder sixty-nine years old entered April 14 complaining of shortness of breath and swelling of the legs.

For fifty years he had had attacks of nocturnal dyspnea, at first associated with "severe colds in the chest" but for years coming without known cause, waking him up feeling suffocated and puffing as though under great exertion. The attacks lasted from half an hour to five hours. Five years before admission the shortness of breath came on insidiously, at first associated with exertion, then becoming progressively worse until even walking brought it on. For four years he had urinated twice at night. Two years before admission at the end of a day's work he became dizzy and short of breath, had some dull precordial pain and was unconscious for half an hour. Then he recovered without treatment and went home unassisted. Since that time he had not worked. He had felt similar attacks coming on, but rest seemed to prevent their developing. For four months his chronic cough had been more frequent and precipitated by exertion.

His father died of gastric cancer.

Since he was nineteen the patient had had "bronchitis",—productive cough except for about three months each year, usually in summer. At twenty-five he had Neisser infection. Since the fainting episode two years before admission his memory had been steadily failing. Two years before admission his weight was 235 pounds, six months ago 223 pounds. He had been losing weight for the past year.

Clinical examination showed an obese, cyanotic, dyspneic, wheezing old man with dehydrated, almost icteroid skin. Teeth, old carious snags. Barrel chest. Lungs full of piping squeaks, inspiratory and expiratory râles. Apex impulse of the heart not found. Percussion measurements: left border 15 centimeters from midsternum, 7 centimeters outside the midclavicular line, right border 1.5 centimeters to the right, supracardiac dullness 6 centimeters. Action absolutely irregular. Fibrillation. A rough systolic murmur heard all over the precordia and into the neck. No diastolic heard, although on account of the rapid heart action and fibrillation the examination was not satisfactory. There was pulse deficit. Pulses not synchronous. Artery walls thickened and tortuous. Blood pressure 190/100. Liver four fingerbreadths below the costal margin, tender, edge felt. The legs showed massive pitting edema, the sacrum moderate edema.

Urine and blood not recorded. Renal function 50 per cent. Non-protein nitrogen 30 milligrams. Wassermann not recorded.

Temperature 98.6° to 103.5° rectal, pulse 80 to 108, respirations 55 to 35.

The patient was given the equivalent of 15 grains of digitalis intramuscularly within twelve hours after admission, but when seen during the night was having violent dyspnea and orthopnea and could not be quieted with morphia. The rate was regular.

The morning after admission the temperature rose to 103.5°. An electrocardiogram showed auriculoventricular dissociation, auricular rate 80, ventricular 90, irregular; left bundle branch block, varying; few more normal beats in lead I. Another electrocardiogram showed idioventricular rhythm with variable intraventricular block; no evidence of auricular action; rate 50, almost regular. The patient died at the end of the electrocardiogram.

Discussion

BY RICHARD C. CABOT, M.D.

NOTES ON THE HISTORY

Taking the facts stated in the opening sentence and no more, you make a guess that that is the arteriosclerotic hypertensive type of heart disease.

The first sentence in the history of the present illness sounds like asthma.

At the end of the past history I still have the same impression that I had in the beginning.

NOTES ON THE PHYSICAL EXAMINATION

"Almost icteroid skin." I think the examination ought to result in a little more definite a statement than that. Did the patient have any jaundice post mortem?

Dr. Tracy B. Mallory: No.

Dr. Cabot: The physical examination runs perfectly true to type so far.

The urine and blood are not recorded, presumably because he died so quickly.

The non-protein nitrogen is 30 milligrams; so far as that goes we have no good reason to suspect the kidney.

The heart rate was regular, so it seems as if the digitalis had taken hold.

The patient died during the electrocardiographic examination, which shows that examination is not always the best thing for people even when it is good for the diagnosis.

DIFFERENTIAL DIAGNOSIS

I do not see anything essentially different to say from what we started with. He has heart disease, presumably of the hypertensive arteriosclerotic type. He has also had angina for a long time. We have nothing to refer us to any other organ. The question remains, did he have a fibrous myocarditis? I think it is probable, though I do not think there is anything in the electrocardiogram that would absolutely prove it. In a person with such lesions as he has at

at his age myocarditis is probable. So I think Dr. Mallory will tell us he has hypertrophy and dilatation without valve lesion and general passive congestion of all the organs, arteriosclerosis probably, and that is all.

A STUDENT: Are those peculiar rhythms always a sign of myocardial failure? Don't you make the diagnosis of myocarditis on the basis of peculiar rhythm?

DR. CABOT: No. I think we ought to make a distinction between myocardial failure and myocarditis, which ought to mean a fibrous process as a result of old infection. Such electrocardiographic changes suggest but do not prove myocarditis.

Don't you find some changes in the heart muscles to account for the disturbed rhythm?

DR. MALLORY: Undoubtedly the conduction processes can be disturbed without any discoverable anatomic basis.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Hypertensive and arteriosclerotic heart disease with congestive failure.
Auricular fibrillation.
Bronchopneumonia.

DR. RICHARD C. CABOT'S DIAGNOSIS

Hypertensive and arteriosclerotic heart disease. Hypertrophy and dilatation.
Arteriosclerosis.
Possibly fibrous myocarditis.
Chronic passive congestion, general.

ANATOMIC DIAGNOSES

1. *Primary disease.*
(Hypertensive heart disease.)
Hypertrophy and dilatation of the heart.
2. *Secondary or terminal lesions.*
Arteriosclerosis.
Emphysema.
Anthracosis.
Chronic passive congestion, general.
3. *Historical landmark.*
Cholelithiasis.

DR. MALLORY: Necropsy showed two important lesions which are undoutedly directly connected with his death. One was emphysema of the lungs, which incidentally also showed unusually marked anthracosis, and the other was cardiac hypertrophy with dilatation of the cavities. The heart weighed over 600 grams and showed marked hypertrophy of both ventricles. The right ventricle wall measured 10 millimeters, an increase over normal of almost 300 per cent, and the left measured 25 millimeters, approximately twice normal. There was a moderate degree only of chronic passive congestion shown in the liver and spleen. This fits fairly well with the great hypertrophy of the right heart, suggesting that emphysema had much to do with his condition, since it is well known that passive congestion of the liver is not the rule in emphysema. We must, however, also assume a hypertension in view of the hypertrophy of the left heart and the hyalin sclerosis of small arteries found in the kidneys. These did not, however, show anything which could fairly be described as a genuine vascular nephritis. Microscopic examination of the heart failed to show any increase in fibrous tissue.

An incidental finding was a small and greatly scarred gall-bladder containing faceted stones.

NOTE BY DR. CABOT

The case should be remembered as proof that extensive disturbances of conduction—as shown by the electrocardiogram—may exist without discoverable myocarditis, macroscopic or microscopic.

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ENACTMENT OF THE VACCINATION BILL

THE advantages of a benevolent despotism appear more plainly in preventive medicine than in any other line of human endeavor. The elimination of yellow fever from Cuba; the sanitation of the Canal Zone which made possible the construction of the canal; the control of smallpox in the Philippines; the practical elimination of typhoid fever in the army are all striking examples of what can be done by an autocrat.

The accomplishment of similar results in a democracy involves endless effort of education of the public in matters which may not seem to concern them very intimately. It is notoriously difficult for a democracy to learn except by experience. The lessons of experience unless often repeated are not inherited.

In public health matters there are always those who are ready to emphasize the exceptional case in which there may have been mishap, to harp upon the fact that biologic reactions cannot be foretold with mathematical accuracy, and to point to the results of human fallibility. Even though opponents of medical progress may confine their statements to actual isolated or exceptional facts they have no intent of conveying the whole truth.

It is against these odds that for the last twelve years Dr. Samuel B. Woodward of Worcester has struggled in the matter of vaccination. When he began there was danger that our present vaccination laws would be wiped from the statutes. Last week the Massachusetts Legislature did away with the discrimination which has exempted children attending private schools from the workings of the law. His tireless efforts have brought this result. He has mastered the facts in regard to vaccination and smallpox over the whole world. He has marshalled and presented these facts so clearly and forcefully that opposition within the Legislature has been silenced. Other incidents would have contributed little to the result had it not been for the genius of Dr. Woodward. It is needless to say that he has honored the medical profession. Massachusetts owes a debt of gratitude to a great humanitarian.

WHAT MUST BE DONE?

TWENTY-SEVEN thousand deaths due to eight hundred thousand automobile accidents in the United States in 1928!

Something should be done more than is being done to prevent loss of life due to the operation of automobiles. In addition to the mortality a vast amount of suffering and disability is imposed upon the survivors.

Almost anyone can learn enough of the mechanics of handling an automobile to secure an operator's license.

Intelligence, caution, courtesy, equilibrium added to good physical condition are requisite to enable one to operate an automobile with safety to himself and others. Can the inspector who rides with an applicant for an operator's license for a few minutes be sure of the ability of the applicant to meet the traffic conditions of the present time? Even after a person has been given the right to operate is there any assurance that he will forever after be competent? Is sufficient care exercised over the moral quality of the risk? Has not the time come when every applicant for an operator's license should pass a physical examination and be obliged to be again examined after a period of years?

Who can suggest these added requirements better than physicians?

HAS THE MEDICAL PROFESSION DEFINITE RESPONSIBILITY WITH RESPECT TO CONTRACEPTIVE INSTRUCTION?

IN a letter to the Editor Mrs. Ames asks a very pertinent question of the medical profession of Boston and one that has never been given its proper consideration by the profession at

large.* Shall contraceptive advice be given to those women suffering from serious diseases in whom pregnancy may lead to serious operation or death?

The statement Mrs. Ames makes that contraceptive advice is not given to such patients is undoubtedly essentially true. Such patients are usually merely told not to become pregnant, but no detailed advice is given to them and no so-called "occlusive" pessaries are placed. The patients are to a great extent left to their own devices regarding the carrying out of the physicians' orders.

Why should this condition prevail? Is not the health of the individual and the community the special sphere of the medical profession? The individual's well-being is our paramount duty and preventive medicine in its broadest sense is the profession's aim. Birth control in the presence of disease may be preventive medicine, but the medical profession has in this respect, to some extent certainly, failed in its duty to the community. Why have we so failed? First, the subject has been studied scientifically, so far as we have been informed, but little; second, by and large it is a tabooed subject even in medical societies; third, the State law is so inclusive that any careful investigative work on the subject might lead to annoying legal complications.

The time undoubtedly has come for this subject to be brought into the open and studied scientifically for the good of the thousands of women who yearly, if not killed, at least have considerable periods of useful life cut off their possible term of years. The medical profession has laid itself open to criticism because it has not taken hold of this subject in a scientific way, but has left it to groups of reputable lay persons who have been willing to meet bitter opposition, with the hope of securing an ethical solution of the problems involved.

It is unreasonable that members of the medical profession should be harassed by a law that prevents their dealing intelligently, and to the best of their ability, with this subject. Is it not a more reasonable and better practice to give to patients the best contraceptive advice possible than to advise them to submit to a therapeutic abortion or to a laparotomy for the purpose of sterilization either by excision of the tubes or by hysterectomy, as is sometimes done? The fact that the New York law and our Massachusetts law are similar and that in New York several clinics are being held without molestation brings up the question whether the time is not ripe for holding such clinics here in Massachusetts.

It is our opinion that such clinics should be established not as separate entities, but as a part of well established gynecological or postpartum clinics. If such clinics were established we then would have the opportunity to make a scientific study on the various contraceptive devices which are now commonly used. Such a study has been conducted by the Maternal Welfare Committee in New York under the able leadership of Dr. Dickinson.

There are pitfalls, but they can be avoided if the medical profession will study the subject with the interest that it deserves.

*See page 510.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

KURTZ, CHESTER M. S.B., S.M., M.D. Harvard 1927. Address: University of Wisconsin. Associated with him is:

WHITE, PAUL D. A.B., M.D. Harvard 1911. Physician, Massachusetts General Hospital. Address: Massachusetts General Hospital, Boston. Their subject is: "The Treatment of Subacute Bacterial Endocarditis by Transfusion from Immunized Donors." Page 479.

KING, RICHARD B. A.B., M.D. Harvard 1925. Resident Physician, Massachusetts General Hospital. His subject is: "The Blood Picture in Portal Cirrhosis of the Liver—A Report Based on 100 Cases." Page 482. Address: Massachusetts General Hospital, Boston.

SMALL, ABRAHAM S. M.D. Tufts College Medical School, 1922. Assistant in Pediatries, Harvard Medical School. Out-patient Staff, Children's Hospital, Boston. His subject is: "The Effects of Ultraviolet Rays on the Capillary Blood in Active Rickets." Page 484. Address: 483 Beacon Street, Boston.

REID, WILLIAM D. A.B., M.D. Harvard 1909. Assistant Professor of Cardiology, Boston University School of Medicine; Associate in Cardiology to the Evans Memorial; Visiting Physician and Chief of Heart Clinic at the Massachusetts Homeopathic Hospital; Cardiac Consultant to the Newton Hospital; Consulting Cardiologist to the Waltham Hospital. His subject is: "Guides to the Clinical Diagnosis of Cardiac Rhythms." Page 487. Address: 510 Commonwealth Avenue, Boston.

BLOTNER, HARRY. M.D. Tufts 1924. Junior Associate in Medicine, Peter Bent Brigham Hospital. Assistant in Medicine, Harvard Medical School. His subject is: "The Use of Insulin in an Out-Patient Department." Page 491. Address: 23 Bay State Road, Boston.

PERKINS, STEPHEN E. B.S., M.D. Boston University, 1923. Medical Examiner of Schools, New Hampshire District No. 5. His subject is: "Foreign Body in the Liver." Page 494. Address: Bartlett, New Hampshire.

THE DOCTOR'S SADDLE BAG

THE RIDING OF HOBBIES

KILLING time is one of the great extravagances of an extravagant age. Like young spendthrifts, in this high pressure era, we toss about our money, our energy and our time with little thought of conservation and find ourselves at the end, as like as not, bankrupt in those opportunities which pass us but once and return that way no more. Too many of us are too often superlatively active in our busy days and impotently inactive when the day's run is over. We are like locomotives which run their swift courses under high pressure and then idly blow off steam which vanishes into the thin air, before they decline into inert lumps of cold metal. Our time and our energies are like the busy, thoughtless waters of a stream which turn their wheel to grind the grist of mankind and then tumble wantonly into a rocky bed instead of finding a useful and quiet diversion in the fertile fields on either side. We harness ourselves to the wheels of productive effort but fail to water the rich meadows of cultivation.

The man who has a hobby is the man who turns himself out to pasture when the collar is taken off his neck, instead of tying himself into a stall until he is ready to step between the shafts again. He is not one of those, of whom there are so many, whose days and weeks and years are uninterrupted circles. They go to bed at night and meet themselves getting up in the morning. They are Alices in the looking glass; they go off in any direction and always meet themselves at the starting point again and in short order; they take themselves and their predicaments very seriously; they stand greatly in awe of the red queens, who after all are only pieces on a chess board, and they have no common interests with the white knights, who are very real and very delightful persons. They expend a great deal of effort in getting ahead in the world, and so does a squirrel in his wheel. To return to an earlier simile—however inept it may be, and I hold no brief for it—it is not the water which turns the wheel which grinds the grain which gets ahead in the world; it is that which waters the fields which grow the grain.

The point of the argument—if argument it be—is that he who rides a hobby takes softer and pleasanter tumbles than he who rides only a hunter or goes to Banbury Cross only by way of the steeple chase. The White Knight, you will remember, wasn't going anywhere in particular and never got there, but he had a pleasant ride. Of course he was encumbered with mouse traps and oil cans and saddle bags and things, and he kept tumbling off his horse, but his tumbles never hurt him. I think he rather enjoyed them because I think he was mounted, whenever he happened to be in the saddle, on a hobby horse.

There are various intellectual or semi-intellectual or almost purely manual diversions which make us live aside from our work. I should hardly liken them to the fleas on a dog, which take his mind off being a dog, but they serve the same purpose, and no man should be without them, although too many are. They are the hobbies of life; the extrinsic essentials to real living of which even stamp collecting, which is to me a weird perversion of character, is one. Far be it from me to cast aspersions on stamp collecting, which is, so far as I know an honest pastime. I simply don't understand it. Garbage collecting, to me, is spicier and not so dry. The stamp collectors, however, I would leave in peace, for they are sportsmen after their own fashion and I am certain their arduous game has thrills if not for me.

I know a fly fisherman who is between times a bacteriologist and a good one and who holds down a responsible position when the trout are not rising. His is a good hobby, as I know, for I also occasionally affect wet feet, and it has the initial prerequisite of a hobby; it can be ridden at all seasons. Your real fisherman is he who owns and has read, more than once, "The Compleat Angler", who fishes dry flies, with or without success, who spends the winter evenings with his fly books, who occasionally, if not often, ties flies, and who can gauge the legal limit in length (approximately) with his eye.

Book collecting, as it always has been, is the intellectual hobby par excellence, and there scarcely breathes a man with soul so dead, who, on reading "This Book Collecting Game" by A. Edward Newton is not inspired to rush to the nearest book-seller and invest his month's income in a first edition of almost anything. It is an expensive game, and when carried to a fine art a sport for millionaires, but choice, though limited collections are within the reach of anyone.

The out of doors sports are hardly hobbies, particularly those which depend mainly on physical dexterity, strength or endurance. Mountain climbing is of little value at the end of the day's work, nor is skiing in the summer time or tennis on Washington's birthday. The fisherman has his winter work to do, if he is ardent, and the bird hunter must raise and train his dogs the year round. The dyed-in-the-wool horticulturist need never be idle, for his books, his seeds, his catalogues and his house plants will keep him always busy, and if he is really dyed-in-the-wool he will have his small conservatory.

We all have friends who make ship models or furniture, who paint, who draw or indulge in the plastic arts; the doctors' art exhibit at the Boston Medical Library last year must have been a revelation to all who visited it and

learned which iron-visaged surgeons modelled delicately in plaster, which knights of the stomach tube etched with a skilful point.

All of us, whether or not we go in for first editions, should have our libraries. In addition if life would be fuller, sweeter and happier we should cultivate some amenity which has the capacity of becoming a real avocation.

The Massachusetts Medical Society

Section of Obstetrics and Gynecology

Frederick L. Good, M.D., *Chairman* Louis E. Phaneuf, M.D., *Secretary*
Frederick J. Lynch, M.D., *Clerk*

What pelvic tumors may cause trouble in pregnancy?

Although pregnancy is not very frequently complicated by co-existing tumors, yet "any condition which increases the average incidence of abortion or dry labor, operative interference, postpartum hemorrhage, and fetal and maternal mortality from three to six times the average, deserves a careful clinical consideration." There are only three types of neoplasm which need to be considered under ordinary conditions. These are the fibromyomata, carcinomata, and ovarian tumors. Since their influence upon pregnancy and labor varies, it is best to consider each type separately.

Fibromyomata frequently lead to a condition of relative sterility either through impairment of fertility or through the induction of early abortion. Various authors report percentages of abortion varying from 15% to 25% in fibroid uteri. It is well-known that these tumors partake in the general hypertrophy of the uterus during gestation and they therefore increase in size, many such tumors, not noticed before pregnancy, become evident. Their most important effects upon pregnancy and labor, however, are determined mainly by their size and location.

Subserous tumors at the fundus may so enlarge as to fill the whole abdomen and cause distressing symptoms of dyspnoea and constipation; or they may become pedunculated, the pedicle become twisted, and necrosis set in; or they may cause incarceration of the uterus through pressure upon the fundus. Generally, however, a fibroid in this fundal location will not interfere with pregnancy or labor unless its size is very great. If, however, it be located in the lower uterine segment or be subvesical, intraligamentous, or impacted in the recto-uterine pouch, then it will cause great difficulty during labor, unless, as sometimes happens, it be drawn out of the pelvis by the retraction and contractions of the uterus.

Interstitial fibroids generally make very little trouble for the patient. Submucous fibroids tend to be extruded towards the uterine cavity by the uterine contractions during gestation. This position results in atrophy of the endometrium with resultant poor soil for implantation of the ovum, leading to frequent abortion, low implantation of the placenta, and placenta previa.

These neoplasms cause uterine inertia, especially in the third stage, resulting in postpartum hemorrhage which endangers the life of the patient. They interfere with placental separation and expulsion and lead to retained or adherent placentae and faulty drainage of the lochia in the puerperium. Their effect upon the incidence of obstetric abnormalities as compared with 8317 unselected cases is seen in the following table by Pierson.

	Fibromyomata %	Unselected %
Abortion; premature labor	24	14
Dry labor	44.5	7.5
Uterine inertia	34.6	1
Prolonged labor	16.8	7.5
Medium forceps	16.8	5
High forceps	2.9	0.6
Breech delivery, Mauriceau	18.8	6
Internal podalic version	8.9	2
Hemorrhage	33.6	4
Fetal mortality after 3 months	32.1	6
Maternal mortality	3.6	0.9

Finally, these tumors may degenerate during pregnancy or the puerperium. The so-called "red degeneration" may occur in the middle of pregnancy but usually subsides with conservative treatment. Various forms of cystic degeneration occur, but generally do not harm the patient. However, if by its position the tumor has been bruised or injured by the delivery, it will become edematous, and may be infected and necrose or suppurate with resultant general sepsis and death.

As regards treatment, the following can be said. Most women with such tumors go through labor without difficulty. Tumors discovered early in pregnancy should be left alone unless the symptoms they cause—pain, hemorrhage, acute abdomen from torsions or necrosis—be so great as to endanger the life of the patient, when operative procedure should be employed. Myomectomy under other conditions has a high percentage of abortion. The patient should be instructed to rest at the time of the expected periods and to employ the knee-chest position daily for a few minutes to prevent impaction of the uterus and fibroid and to relieve pelvic engorgement. If the tumor be in the pelvis, attempts to displace it upward manually should be made.

During labor, the patient should be watched carefully, as many tumors which apparently seem to preclude the possibility of vaginal delivery are pulled up out of the way by the retraction and contractions of the uterus. Where this does not occur, or where the number, position, and size of the fibroids make this

possibility or the prevention of injury to them seem unlikely, abdominal section with myomectomy or hysterectomy, as indicated, should be performed. In infected cases, hysterectomy or perhaps the new Portes operation of exteriorization of the uterus is the correct procedure.

During the puerperium, all these tumors undergo a certain amount of edema and then decrease in size with involution of the uterus. They do not disappear; they merely become smaller. Usually convalescence is normal, but if they have been injured during delivery, they frequently become infected and lead to a stormy puerperium. If they necrose or suppurate, operation will be necessary. Submucous fibroids sometimes become pedunculated and are extruded into the uterine cavity, whence they can be removed if they cause excessive hemorrhage.

Uterine carcinoma is a very rare complication of pregnancy because it is ordinarily a disease of later life. Cancer of the fundus almost excludes the possibility of pregnancy, although a few cases have been reported in the literature. Even cancer of the cervix is unusual, DeLee finding only four cases in 55,000 consecutive cases at the Chicago Lying-In Hospital and Dispensary. Where it does occur, however, it exerts a very evil influence upon pregnancy and labor. Abortion, hemorrhage, sepsis, and rapid spread of the tumor due to the increased vascularity of the uterus result during pregnancy. Dystocia, rupture of the uterus from the friability of the cancerous tissue with following terrific hemorrhage and sepsis give a very high maternal mortality during labor and the puerperium. Its diagnosis is established in the usual manner.

Treatment depends upon the degree of advancement of the cancer and the time of its discovery. If the cancer be operable and the pregnancy be early or the child be already viable, immediate radical operation is the only correct procedure, since this gives the mother the greatest chance of cure. If the cancer be diagnosed just before viability is established, then one may wait a few weeks to secure a living child and then operate. Do not wait to term, however, as this unjustifiably decreases the mother's chance of cure. If the cancer be inoperable, the woman is allowed to proceed until the child is viable and then a Porro Caesarean is done to avoid all the above-mentioned complications of labor. Postoperatively, x-ray and radium are used in all cases, but these forms of treatment should be avoided during pregnancy because of irremediable injury to the foetus.

Ovarian tumors during pregnancy are much less frequent than myomata, but, on the other hand, they are more dangerous in themselves. Pregnancy itself is not very much affected by the tumor, although some authors report from 17% to 22% of abortions. The tumors are frequently symptomless and unrecognized during pregnancy, except when they occasionally grow to huge size. They are small and in the pelvis, usually, and do not obstruct labor unless incarcerated in the pelvis. Their great danger, however, lies in the heightened percentage of torsion of the pedicle (McKerron, quoted by Litzenberg—8% in non-pregnant, 12% in pregnant, 20% in puerperium), the liability to necrosis and infection from bruising during delivery, and the danger of rupture of dermoid cysts with resulting peritonitis. (McKerron, quoted by DeLee—types found—simple and multilocular 68%, dermoids 23%, fibromata and solid adenomata 2%, malignant 5%.)

Most authors are agreed that ovarian tumors should be removed as soon as discovered, whatever their size, location, or type. The only exceptions are (1) discovery late in pregnancy when one may wait until term and then deliver the foetus by Caesarean Section after removal of the tumor, and (2) bilateral cysts in a childless woman, when operation should be delayed because of the increased danger of abortion. If the patient be in labor when first seen, an attempt should be made to displace upwards manually any tumor blocking the pelvis and delivery performed from below as usual. Laparotomy for the tumor should be done immediately because of the danger of necrosis and infection from the bruising during delivery. Spencer says, "Induction of premature labor, forceps, version, and simple tapping of the cyst as a means of overcoming the dystocia produced by ovarian tumors are absolutely contraindicated." Laparotomy is the correct treatment.

Questions of a similar nature to the above will be discussed in the JOURNAL each week until June. They may be addressed to the Clerk of the Committee, in care of the JOURNAL and will be answered by members of the Committee of the Section of Obstetrics and Gynecology.

MISCELLANY

PROBLEM CHILDREN

A bill providing for 24-hour schools for predelinquent children 8 to 16 years of age has been introduced into the 1929 legislature of California, according to information from the Children's Bureau. In these schools the children are to receive such physical, moral, mental, and vocational training as will prepare them for law-abiding and useful citizenship. Another bill provides for an institution for defective or psychopathic delinquents, where they may be cared for and trained for rehabilitation in the life of the community. These bills were recommended for enactment by the California Commission for the Study of Problem Children in its report to the 1929 legislature. The commission also sponsored the bill to authorize the appointment of a committee to conduct a mental-hygiene survey of California.

Working along the same lines, a behavior (child-

guidance) clinic has been established in connection with the school of social work of Tulane University, New Orleans. A behavior clinic examines a child to discover the causes of his misbehavior or mental difficulties and advises the parent or teacher as to how best to help the child to overcome them.

NEWTON'S SCHOOL HEALTH PLAN

The Co-öperative school health plan has been found so effective in Newton, Massachusetts, that a study of it has been made by a committee of the Educational Advisory Group of the Metropolitan Life Insurance Company, of which Dr. John S. Sundwall, Director of the Department of Hygiene and Public Health of the University of Michigan, was chairman. It is published by the Metropolitan in convenient book form, under the title "A School Health Study of Newton, Massachusetts."

The secret of this health plan is to make the pupil's health an integral part of his regular studies, and to secure his and his parents' co-öperation by demonstrating better health as a positive asset. The school, for instance, has a nine o'clock club, and the pupil, on going to his first class, records whether he is a member in good standing in this club. To accomplish this he must have gone to bed the night before at or before nine o'clock. Experience has shown that nothing is equally effective in creating a positive desire to be in bed early.

Similarly, the pupil having been taught the desirability of certain foods, records on his chart the fact that he had these foods the day before, and whether he had second helpings. It is reported that the demand for spinach in Newton has almost outstripped the supply.

In line with this co-öperation, the mothers are invited to attend the periodic physical examination of their children in order that they may learn the pupil's physical needs. The increase in parental attendance is an index of the increasing interest which is being shown. That improved health in the schools of a community can be secured through the intelligent co-öperation of school authorities, local physicians, the local woman's club and civic bodies, such as the Kiwanis, and Rotary Clubs, the Chamber of Commerce and the Board of Trade, has again been demonstrated.

MASSACHUSETTS MORTALITY STATISTICS: 1927

Washington, D. C., February 8, 1929.—The Department of Commerce announces that the 1927 death rate for Massachusetts was 1,162 per 100,000 population as compared with 1,254 in 1926. This decrease in 1927 is largely accounted for by decreases in the rates from pneumonia, all forms (from 117 to 94 per 100,000 population), diseases of the heart (from 259 to 243), influenza (from 20 to 9), measles (from 10 to 2), tuberculosis, all forms (from 84 to 76), whooping cough (from 10 to 4), nephritis (from 89 to 84), and diarrhea and enteritis, under 2 years (from 19 to 15).

An increase in 1927 is shown in the death rate from cancer (from 127 in 1926 to 129 per 100,000 population).

The estimated midyear population of Massachusetts was 4,242,000 in 1927 and 4,197,000 in 1926.

Cause of Death	Deaths in Massachusetts			
	Number		Rate per 100,000 estimated population	
	1927	1926	1927	1926
All causes 1/	49,285	52,638	1,161.8	1,254.2
Typhoid and paratyphoid fever	42	59	1.0	1.4
Malaria	1	2	2/	2/
Smallpox	-	-	-	-
Measles	91	401	2.1	9.6
Scarlet fever	145	125	3.4	3.0
Whooping cough	155	412	3.7	9.8
Diphtheria	275	250	6.5	6.0
Influenza	400	850	9.4	20.3
Dysentery	16	12	0.4	0.3
Erysipelas	127	100	3.0	2.4
Lethargic encephalitis	61	76	1.4	1.8
Meningococcus meningitis	53	59	1.2	1.4
Tuberculosis (all forms)	3,202	3,503	75.5	83.5
Of the respiratory system	2,787	2,976	65.7	70.9
Of the meninges, central nervous system	188	239	4.4	5.7
Other forms	227	288	5.4	6.9
Syphilis 3/	412	461	9.7	11.0
Cancer and other malignant tumors	5,449	5,313	128.5	126.6
Rheumatism	123	128	2.9	3.0
Pellagra	10	11	0.2	0.3
Diabetes mellitus	864	844	20.4	20.1
Meningitis (nonepidemic)	94	123	2.2	2.9
Cerebral hemorrhage and softening	4,034	4,092	95.1	97.5
Paralysis without specified cause	97	97	2.3	2.3
Diseases of the heart	10,293	10,865	242.6	258.9
Diseases of the arteries, atheroma, aneurysm, etc.	1,917	2,040	45.2	48.6
Bronchitis	271	314	6.4	7.5
Pneumonia (all forms)	3,967	4,906	93.5	116.9

Cause of Death	Deaths in Massachusetts			
	Number		Rate per 100,000 estimated population	
	1927	1926	1927	1926
Respiratory diseases other than bronchitis and pneumonia (all forms)	261	320	6.2	7.6
Diarrhea and enteritis	758	944	17.9	22.5
Diarrhea and enteritis (under 2 years)	635	812	15.0	19.3
Diarrhea and enteritis (2 years and over)	123	132	2.9	3.1
Appendicitis and typhlitis	571	530	13.5	12.6
Hernia, intestinal obstruction	421	437	9.9	10.4
Cirrhosis of the liver	226	238	5.3	5.7
Nephritis	3,562	3,713	84.0	88.5
Puerperal septicemia	172	181	4.1	4.3
Puerperal causes other than puerperal septicemia	346	355	8.2	8.5
Congenital malformations and diseases of early infancy	3,014	3,164	71.1	65.4
Suicide	465	465	11.0	11.1
Homicide	85	84	2.0	2.0
Accidental and unspecified external causes	2,771	2,731	65.3	65.1
Burns (conflagration excepted)	201	212	4.7	5.1
Accidental drowning	295	224	7.0	5.3
Accidental shooting	28	27	0.7	0.6
Accidental falls	692	721	16.3	17.2
Mine accidents	-	-	-	-
Machinery accidents	57	63	1.3	1.5
Railroad accidents	119	122	2.8	2.9
Collision with automobile	16	9	0.4	0.2
Other railroad accidents	103	113	2.4	2.7
Street-car accidents	64	57	1.5	1.4
Collision with automobile	12	8	0.3	0.2
Other street-car accidents	52	49	1.2	1.2
Automobile accidents (excluding collision with railroad trains and street cars)	696	682	16.4	16.2
Injuries by vehicles other than railroad trains, street cars, and automobiles 4/	63	60	1.5	1.4
Excessive heat (burns excepted)	7	35	0.2	0.8
Other external causes	549	528	12.9	12.6
All other defined causes	4,466	4,342	105.3	103.5
Unknown or ill-defined causes	68	91	1.6	2.2

1/ Exclusive of still births.
2/ Less than one-tenth of 1 per 100,000 population.
3/ Includes tabes dorsalis (locomotor ataxia) and general paralysis of the insane.
4/ Includes airplane, balloon, and motor-cycle accidents.

SMOKE IN ITS RELATION TO HEALTH

The physician sees in the smoke cloud something entirely different, something vastly more important than the engineer sees. He sees a grave menace to the health of the community. Smoke is a mixture of the gases of combustion, nitrogen, oxygen, carbon monoxide and carbon dioxide, with unconsumed carbon, sulphuric acid, ammonia, and some other products. He sees the black smudge of unconsumed carbon and hydrocarbons, and he knows that even the gray, inconspicuous smoke contains countless millions of particles of ash that float in the air after the carbon particles, the soot, have been deposited. The physician knows, as we all do, that human beings must breathe. Human beings are air animals, and the physician knows how important it is that the air they live in be also of the proper temperature and clean.

How smoke affects the eyes. Physicians know that foreign bodies in the eye are often the cause of painful ulcers of the cornea; but those who are constantly exposed to the gases and particles of smoke suffer from an irritation which causes a lowering of the natural resistance of the eye to disease.

How smoke affects the nose and throat. The nose and throat also suffer from a smoke-polluted atmosphere, in spite of the fact that the delicate mucous lining of the nose and throat is better equipped to withstand chronic irritation from dust particles and gases than other parts of the body. However, the excessive and chronic irritation eventually sets up an inflammation and lowers the resistance to disease.

The respiratory passages possess an elaborate mechanism for filtering out these foreign particles from the air we breathe to keep them from lodging in the minute terminal breathing sacks of the lungs. The bronchial tubes are lined with cells possessing minute hairs that are constantly sweeping the mu-

cous secretions with the entangled foreign particles, upward and outward. But if this protective mechanism is constantly overtaxed by smoke and dust-laden atmosphere, a chronic inflammation of the bronchial lining is the result. The bronchial tubes suffer by this long continued irritation caused by smoke, in the form of a non-specific bronchitis, which leads to a morning cough that brings up the blackish mucus and particles.

How smoke affects the lungs. Eyes, nose and throat suffer from a smoke-polluted atmosphere, but the lungs themselves are more seriously involved. Let us think of a cloud of smoke as made up of millions of small particles of carbon and ash, irritating gases, floating in the air, some of which are inhaled with every breath. Some are coughed up, but many become embedded in the substance of the lung and are soon surrounded by scar tissue; they accumulate by thousands and thousands until the oxygen-absorbing spaces are largely displaced by the small particles and by inflammatory tissue. The extent to which this process invades the lung is not always appreciated.

Smoke and sunlight. But the doctor sees more than this in the smoke cloud. He sees a blanket, a pall over the city which excludes the life-giving sunlight, our greatest necessity for maintaining health. The sun is the great giver of life. We cannot live without it. But its rays are continually becoming lessened. The weather bureau reports that the amount of sunshine in Chicago has been reduced 12 per cent. in the last five years. The Department of Health, which has been making observations since early last winter, finds that only half of the sunlight with its curative ultra-violet rays which we find on the tops of the buildings reaches the surface of the streets. This is explained by the fact that much of the smoke and foreign particles lie low between the tops of buildings and the street effectively screening out the light.

Chicago's death rate is influenced definitely according to the average number of days on which the ultra-violet rays reach us in fair amount. During those in which there is little of the ultra-violet light, cases of pneumonia increase and we have many deaths. During those in which we have plenty of sunlight, there is little pneumonia and we have fewer deaths. Chicago's death rate last winter rose for but one reason, and that was pneumonia. Comparing pneumonia statistics in various cities in the United States, we find that the highest pneumonia rate is in the smokiest cities. Pittsburgh, long the smokiest city, has a pneumonia death rate, much in excess of any other large city in the United States.

Smoke is a serious health hazard. It is a menace to the life and well-being of every citizen of the city of Chicago. It stands in the way of the attainment of a lower death rate.—*Bulletin Chicago School of Sanitary Instruction.*

RESEARCH WORK BY THE NEW YORK SKIN AND CANCER HOSPITAL

Arsenic poisoning is responsible, either directly or as a contributory cause of greatest importance, for thirty per cent. of all cases of eczema studied by the research department of the New York Skin and Cancer Hospital over a three-year period.

As a result of this discovery a treatment has been developed for removing arsenic from the system so that many cases which were formerly held incurable can now be completely cured in a relatively short period of treatment. This treatment has also been successful in cases of neuritis and paralysis due to arsenic poisoning.

When a large percentage of the cases of eczema studied showed symptoms of chronic arsenic poisoning a method was developed for determining the presence of arsenic in the body. This test proved that thirty per cent. of the eczema patients were definitely poisoned with arsenic or retained a large quantity of arsenic in their systems. The hospital set about immediately to develop a method which would remove arsenic from the system.

Arsenic poisoning is most frequently due to industrial contact with arsenic or with accidental food contamination from vegetables or fruits which are sprayed with an arsenic insecticide such as apples, grapes, cherries, peaches, celery, lettuce, peas and beans. Tobacco is another frequent source of arsenic poisoning.

The research work done by the New York Skin and Cancer Hospital on arsenic poisoning has been confirmed by the United States Bureau of Drugs and Insecticides and has been accepted by the International Fruit Growers Association, by the State Boards of Health in New York, Massachusetts, Arkansas and many of the states of the northwest. The first report on this work appeared in an article on "Arsenic Findings in Dermatological Conditions" published in the *New York State Journal of Medicine* July 15, 1927.

The report of the research department to the board of governors of the hospital also stated that a vaccine for "sycosis", an almost incurable skin disease, has also been developed and when used in combination with a special diet has proved curative for eighty per cent. of the cases which have applied to the hospital for treatment. Heretofore, x-ray was considered the best available treatment but was credited with less than forty per cent. success by expert dermatologists both in Paris and New York.

Ancell H. Ball is president of the board of governors; J. Edwards Wyckoff, James G. Blaine and Heber Smith, vice-presidents; G. Forrest Butterworth, Jr., secretary; Harris A. Dunn, treasurer, and Gilbert P. Taylor, assistant treasurer. Other members are: Waldron P. Belknap, John Howes Burton, William Mullan Campbell, Charles M. Connfelt, Edmund Dwight, Frank Andrews Fall, George Barton French, Frederic Haas, John Vosburgh Irwin, Frederick M. Johnson, Philip Le Boutillier, Winchester Noyes, Charles C. Paulding, John Reid, Jr., Franklin Simon, Arthur J. Slade, Richard A. Strong, Walbridge S. Taft, Benjamin B. Thayer, Charles Seymour Whitman.

CORRESPONDENCE

EUGENICS AND THE FEEBLE-MINDED

Mr. Editor:

When asked by Mr. Ratshesky to speak at the State House meeting on Governor Allen's recommendations I thought that the menace of the feeble-minded was well recognized and that the only method of control was by isolation or sterilization of these people. So believing, I pictured a gloomy future for our distant

successors unless suitable provisions were made by the State for more extensive segregation or the passage of laws which would permit of the sterilization of the majority of these unfortunates.

To my great surprise Dr. L. Vernon Briggs, who spoke later, said, "If we had on our farms low-grade cattle, feeble-minded you may say, we would bring in the best stock we could to build up that stock and that is what we have done. Feeble-minded people have not always married feeble-minded. They have married good New England stock mentally and physically, and *if that could be brought about entirely, it would be the best way to eliminate feeble-mindedness.* In other words 90% of the feeble-minded could be taken care of *safely* in the community."

Far be it from me to contradict so eminent an authority as Dr. Briggs, but I must confess to a sneaking fear that the mating of the healthy with the feeble-minded will have a debasing rather than an uplifting result, nor do I, nor, I should suppose, does he, expect to immediately see the 90,000 altruistic individuals who, to prove the truth of his assertion, are ready to mate with the 90,000 or the 50,000, or even the 20,000 matable feeble-minded now in evidence.

Was Dr. Fernald mistaken when he declared that with one feeble-minded parent half the children were likely to resemble him or her and that the children who escaped the taint were more likely to produce offspring deficient mentally than were those with a more perfect ancestry?

We have over 2,000 of the feeble-minded on the waiting lists of our hospitals. An addition of one hundred and forty-seven beds is suggested for Belchertown. An entirely new hospital will barely care for the remainder.

Can we content ourselves by thus custodially caring for 10% of the feeble-minded and ask the healthy members of the community to come forward and "breed out" the rest of the taint? I wonder.

Sincerely,

SAMUEL B. WOODWARD.

CERTAIN FACTS CONCERNING SO CALLED BIRTH CONTROL

225 Bay State Road
Boston, Mass.

February 7, 1929.

To the Editor
NEW ENGLAND JOURNAL OF MEDICINE,
126 Mass. Ave., Boston.

Dear Sir:

I understand that in the hospitals in Boston, contraceptive advice is not given to women with serious diseases of the heart, lungs or kidneys, even though these diseases may become aggravated during pregnancy and lead to death or to serious operation.

In New York City, on the other hand, there are eight hospitals which have given Birth Control advice in out patient departments as part of the gynecological service; the Beth Israel, Lebanon, Lenox Hill, Jewish, Mt. Sinai, New York Infirmary for Women and Children, New York Nursery & Child's, Sloane, and Woman's. (In the whole United States there are twenty-six clinics for Birth Control advice.) The comparison of Boston and New York is particularly interesting because the laws in these two states are very similar.

In this connection, I wish to call your attention to an opinion of the late Mr. Samuel J. Elder of the firm of Elder & Whitman on the legal aspects of giving birth control information: "It is true that our statutes have reference to *printed* and not to *oral* communications, so that doctors, nurses and individuals may so far as the statute is concerned give oral information."*

May I ask how the medical profession feels on this subject, whether physicians think that the Boston custom should prevail, or whether they believe that advice should be given to the individual whose life may depend upon it?

Very sincerely yours,

BLANCHE AMES.
(Mrs. Oakes Ames.)

Mr. Elder's Opinion in full:

..... "Coming now to the question which confronts the Birth Control League, viz: what, if any part of its activities may be continued, I am constrained to say that I see very little that can be done. It is true that our statutes have reference to *printed* and not to *oral* communications, so that doctors, nurses and individuals may so far as the statute is concerned give *oral* information. The statute does not prohibit the maintaining of an office where such information may be given, but no printed matter can be circulated giving any "hint" that such information can be had there." .....

The acquittal of Dr. Konikow by Judge Creed in the Municipal Court on March 1, 1928 further confirms this opinion of Mr. Elder that a physician may give oral advice. In this case the doctor was lecturing to a large group on sex hygiene and exhibited contraceptive articles.

*Extracts from Letter Dated May 29, 1917 to the Counsel of the Birth Control League from Mr. Samuel J. Elder of the firm of Elder and Whitman, Pemberton Bldg., Boston.

THE EXAMINATION OF SCHOOL CHILDREN

The Commonwealth of Massachusetts
Department of Public Health
State House, Boston

March 1, 1929.

President, County Medical Society,

Dear Sir:—

I am writing to request that you bring up for discussion at a meeting of your Society the subject of the examination of the children about to enter school, known as the Summer Round-Up.

Copies of the material to be distributed, as well as copies of letters asking for the co-öperation of the Board of Health, Visiting Nursing Association and Parent-Teacher Association, will be sent you later.

The families will be requested to take the child to the *FAMILY PHYSICIAN* for a thorough and complete physical examination, the findings of the examination to be recorded on the school physical record card which follows the child through his school life.

I suggest that the school physician take up this project with the other physicians in his own community and discuss the physical examination in order that there will be uniformity in examination and findings.

No doubt, some of the patients may be financially unable to get defects corrected before September 1st.

In such cases the local hospitals and service clubs can be stimulated to provide means for caring for them. The final report, together with reports which we can furnish, would create enough local interest to care for all local problems.

We have considerable printed matter which we will gladly send on request to all physicians who are interested.

Very truly yours,
GEORGE H. BIGELOW, M.D.,
Commissioner of Public Health.

AN EXTRACT FROM DR. HENRY J. BIGELOW'S ADDRESS ON SCIENCE AND SUCCESS*

Mr. Editor:

The extracts given below well illustrate the delightful whimsicalities which Dr. Bigelow sometimes indulged in to illustrate a point concerning some medical subject. If one reads the address without knowing the author's name they would guess—Osler, —or Stephen Paget.

Dr. Bigelow is speaking of the wide variation in the treatment of disease from one epoch to another.

"One remedy often does as well as another, both being superfluous, and neither positively injurious. . . . In other learned professions—for example, at the bar—there is a public tribunal where a standard of right is upheld and the advocate is tested, but the medical man both argues and adjudicates in private, being himself examining council, jury and judiciary, and the patient relies on him alone."

"More than this, people have their private preferences." "Suppose your roof should leak, and that a carpenter, when sent for, should make a diagnosis, and then stop the hole; and that at another time you should, in like manner, send for a different mechanical practitioner, who, on hearing of the anasarca which pervades your house, should fumigate the entries, and introduce agreeable preparations into the *primae viae*, promising to call again next day."

"If the rain should then cease and your house be soon dry, I am not sure that you would all prefer the first inelegant prescriber, who merely stopped the leak, especially if the second were a sanitary engineer. Thus it is that, because people are not qualified themselves to be judges of a lesion, they must sometimes accept on faith, and be as well content with the one treatment as with the other." . . .

"It has been well said that the comprehension of disease is in inverse ratio to the belief in prescriptions."

"The epigastric tympany which afflicts the maid of Erin, chained to her laborious routine, or yet that evil demon of the sewing girl, the stitch begotten of the stitch, these are maladies rarely to be exorcised in a moment. But let some salutary discipline alternately with therapeutic duties beguile the tedious convalescence and justify improvement, while you inculcate the necessary diet and fresh air, and the dyspepsia and the spasm will forthwith abate." . . .

"Let us not deceive ourselves. Heaven knows that it is difficult, in any calling, to maintain an ideal equilibrium of perfect right. It was a pardonable confusion of professional ideas, that once escaped an excellent friend of mine in the remark, 'I cannot make this patient fewer visits, for my family needs all I can earn.'"

"It was on the other hand, a Spartan trait in one of the most unblushing but successful pill venders of the day, and one which shall preserve his name inviolate, that he could exclaim, 'God forbid! Indeed I gain my money in that way, but no friend of mine shall take my pills!'"

February 26th 1929

Yours truly,
WM. PEARCE COUES, M.D.

*A Valedictory Address delivered to the Medical Graduates of Harvard University, Boston, 1859. Bigelow Addresses, 1900.

A GRADUATE COURSE IN CANCER

Dr. Walter P. Bowers,
126 Massachusetts Avenue,
Boston, Massachusetts.

The question of offering a brief course in cancer to the profession of the State as suggested by your editorial of January 31, 1929, has already been referred to the Society's Committee on Cancer, of which Dr. Robert B. Greenough is Chairman.

This Committee is to arrange such a course to be given in Boston during the last week in April, in coöperation with the American Society for the Control of Cancer and the State Department of Public Health.

Dr. Greenough has assured me that a preliminary program will soon be announced. This will, of course, be printed in the columns of the JOURNAL with your approval and will be followed later by the announcement of the final program.

Very truly yours,
JOHN M. BIRNIE, M.D.,
President, Massachusetts Medical Society.

NEWS ITEMS

DR. STREETER SPEAKS BEFORE THE NEW YORK ACADEMY OF MEDICINE—Edward C. Streeter, M.D., of Boston will speak before the Section of Historical and Cultural Medicine of the New York Academy of Medicine on the evening of March 13. His title is The Struggle Against Latin in Medicine—Its Effect Upon French Surgery in the XVIth Century.

INNOCENT INFECTIONS—477 children under 10 years of age, upstate New York, were reported in 1927 as infected with syphilis or gonorrhea.

These diseases are preventable.

Is your community protecting its children from innocent infections?—*Bulletin N. Y. State Department of Health.*

AMERICAN PROCTOLOGIC SOCIETY MEETS IN DETROIT, MAY 13, 14 AND 15, 1929—The American Proctologic Society will hold its annual meeting in Detroit—"The Convention City"—on May 13, 14 and 15. The Hotel Statler has been selected as headquarters for the scientific program, and the scientific and commercial exhibits.

DR. MICHAEL M. DAVIS AND THE JULIUS ROSENWALD FUND—Michael M. Davis, Ph.D., has taken the position of Director for Medical Services for the Julius Rosenwald Fund. He will continue to accept a limited amount of consultant work in connection with hospitals, clinics and community surveys.

REPORTS AND NOTICES OF MEETINGS

THE ANNUAL MEETING OF THE BOSTON HEALTH LEAGUE

This meeting was held at the Fenway School Center, Teachers College Building, Huntington Avenue near Longwood Avenue, on Monday evening, March 4, 1929. Dr. Thomas D. Wood, Professor of Health Education, Columbia University, Vice President American Child Health Association, gave the principal address of the evening on Child Health Education.

ESSEX SOUTH DISTRICT MEDICAL SOCIETY

The regular meeting of the Essex South District Medical Society was held at Danvers State Hospital on Feb. 13, 1929. The hospital was open for inspection from four until six p. m., at which hour a buffet supper was served. At seven o'clock a motion picture was shown, "Mechanics of the Brain," by Pavlov, illustrating conditioned and unconditioned reflexes.

The speaker of the evening was Dr. Roger I. Lee of Boston, who discussed some phases of increased and decreased thyroid secretion.

WM. T. HOPKINS, *Reporter*.

THE MEDICAL SECTION OF THE SUFFOLK DISTRICT MEDICAL SOCIETY

Dr. Lafayette B. Mendel of Yale University read a paper on "The Relation of Diet to Fat Formation" at the Boston Medical Library, before the Medical Section of the Suffolk District Medical Society on Wednesday evening, February 27, 1929. Dr. George R. Minot presided.

The results of his extensive researches on the metamorphosis of ingested fat to the deposit of fat in the various storage depots in the body was outlined. Albino rats were given a diet, 40% of which consisted of substances essential to life, while 60% of the diet consisted of excessive food to produce fat.

Dr. Mendel indicated that in contradistinction to carbohydrate and protein, ingested fat seems to retain more nearly its original characteristics as it undergoes absorption and storage. He cited clinical and experimental evidence to show that the fat deposited about the body varies according to the type of fat fed the animal.

The clinical possibilities were pointed out for, according to this evidence, the type of fat deposited can be influenced by the appropriate diet. Extensive experiments have shown that during periods of starvation all depots are drawn upon in a similar manner, there being no preferential utilization. Similarly, deposition of fat is distributed according to the characteristics of the animal, without being influenced by exercise or by the type or amount of the diet.

Dr. Joslin, Dr. Wolbach, Dr. Minot and others provided an interesting discussion of the paper.

HARVARD MEDICAL SOCIETY

The Harvard Medical Society held a meeting in the Peter Bent Brigham Hospital Amphitheatre on the evening of Feb. 26, 1929. After the presentation of cases Dr. Henry A. Christian, who presided, introduced Dr. W. L. Aycock who spoke on "The Significance of Seasonal and Climatic Variations in the Occurrence of Poliomyelitis."

The first case was presented by Dr. Halberslaben of the medical service. The patient was an 18 year old boy who came into the hospital because of stiffness in his jaw and neck that had been developing gradually for 2½ days. Sixteen days before entry, while skiing on ground that was used for gardening and had very little snow on it, he feel and skinned his right knee. The wound festered, but after slight treatment it began to heal over. Two and a half days before admission he noticed difficulty in swallowing. Symptoms increased so that he entered the hospital with a sharply retracted head, stiff neck, set jaw, and rigid abdominal muscles. He was given 20,000 tetanus antitoxin units intraspinally, 30,000 intravenously, and 8000 around the wound. In ten days with varying dosage he had been given 78,000 units intraspinally, 150,000 intravenously, and 77,000 subcutaneously. He was given morphine, 25% magnesium sulphate subcutaneously with doubtful effect, sodium luminal intravenously with no effect, and chloral hydrate by rectum with good effect. By the tenth day he was swallowing without difficulty and was receiving 8 gms. tolysin daily in the hope of warding off the joint troubles in serum sickness, of which he had a slight reaction. At the time of presentation he was quite comfortable.

The surgical case was presented by Dr. Oldberg. The patient was a 45 year old saleslady complaining of pain in the epigastrium which came on a half to one hour after eating sometimes relieved by soda, sometimes by vomiting, sometimes by nothing. This had been going on for eight years. In the last year the attacks had been getting worse and more frequent, though she had lost no weight. A month ago on the medical side she was found to have no free acid in her stomach, a positive Wassermann, and x-ray showed a multilobular mass along the greater curvature of her stomach. She was explored and was found to have an over-distended bladder, a scar on the lesser curvature of the stomach which on excision proved to be normal scar tissue, and redundant normal mucosa along the greater curvature. She did well after operation, but had to be catheterized twice. Neurological signs were conflicting. Spinal puncture showed a double plus Wassermann and a cell count of 17. The probable diagnosis was a healed gastric ulcer followed by gastric crises due to tabes.

In beginning his paper Dr. Aycock pointed out that poliomyelitis has the same age and community distribution as measles and diphtheria. One infers from this that the spread of, and immunization against these three diseases are the same. The difference in incidence of the three diseases, therefore, is not due to difference in the spread of the respective viruses, but to the amount of immunization obtained from previous exposures. The incidence of poliomyelitis decreases the farther south one goes to the equator and then increases to the same degree as in the northern temperate zone. There is a lower incidence

in the southern states of this country than in the northern, but the age distribution is approximately the same. Perhaps one can conclude that the virus is at least as wide-spread in the south as in the north.

There are three factors which may be considered as determining the climatic variation in the incidence of the disease: a corresponding variation in pathogenicity, in the dose of the causative organism, or in resistance of the host. There is no direct evidence as to a variation in the virulence of the virus. In the second place, poliomyelitis is a disease of warm weather and one cannot postulate a larger dose of the virus in warm weather as the determining factor as the disease is one of cooler climates. Contact transmission can take place just as well in warm as cold climates. And so we look to the third point. It has been found that those southern states which have less fluctuation of temperature also have less fluctuation in the incidence of poliomyelitis. The incidence does not seem to depend upon an even warm temperature, but on a variation in the temperature.

It has been shown that there are seasonal variations in many functions of the body. The weights of organs of rabbits vary with the months, the thyroid and testicles having their greatest weight in the first part of the year, while the popliteal and parathyroid glands weigh most in the last months of the year. Statistics show that children gain about four times as much weight in the last five months as in the first five months of the year. Larger doses of diphtheria toxin are required in the summer than in the winter to kill guinea pigs.

From these facts combined with the seasonal incidence of poliomyelitis Dr. Aycock concluded that the results of seasonal and climatic changes do not affect the virus, but affect man, raising or lowering his resistance to poliomyelitis infection. For this kind of resistance he suggested the term "antarcesis" which is to mean the power to resist disease without outside assistance as distinguished from resistance gained by a previous attack of the disease, i. e., immunity. Dr. Aycock also suggested that since with the warm weather certain physiological functions are stimulated to greater activity, some imbalance in these functions resulting in the failure of some bodily function to adjust to variation in seasons might lower the resistance to poliomyelitis infection. This would agree with the law governing the occurrence of poliomyelitis: that it is a disease of warm weather but of cooler climates. He pointed out that one sees a suggestion of some imbalance in physiology in the fact that poliomyelitis tends to occur in certain types of children which he describes as being unusually well developed but at the same time physically and temperamentally of a delicate makeup.

Finally, an experimental approach to the problems was outlined, which has recently been made possible by the successful intranasal inoculation of monkeys with the virus of poliomyelitis. By this method of inoculation Aycock has shown that monkeys show a degree of resistance not unlike that of the human. Further studies of this mechanism of resistance or antarcesis are being made, such as testing the influence of various artificial alterations in physiology upon susceptibility of monkeys to intranasal inoculation.

The paper was illustrated by many charts and was unusually interesting.

GREATER BOSTON MEDICAL SOCIETY

A meeting of the Society will be held in the Auditorium of the Beth Israel Hospital, Brookline Avenue, Boston, on Wednesday, March 13, 1929, at 8.15 p. m.

PROGRAM

1. "Practical Points in Diagnosis and Treatment of Malignant Lymphoma," Henry Jackson, Jr., M.D., Boston City Hospital. Dr. Jackson will present briefly the classical pictures of malignant lymphoma and leukemias. He will also discuss some of the symptoms which are frequently overlooked and the pitfalls which one may meet in the diagnosis of these conditions.

2. "Presentation of Leukocytic Blood Pictures," William Dameshek, M.D., Beth Israel Hospital. Dr. Dameshek will discuss briefly the various white blood cell pictures which are of practical value and will point out the importance of the changes in the white cells in evaluating the severity of the infection.

3. "Discussion of Some Problems of Splenomegaly of Practical Import," Arlie V. Bock, M.D., Massachusetts General Hospital. Dr. Bock's discussion will deal with some problems of Splenomegaly. He will also discuss the differential diagnosis of chronic splenitis, Banti's disease, and cirrhosis of the liver.

A general discussion will follow.

Physicians, medical students and nurses cordially invited.

Refreshments.

ROBERT SLATER, M.D., *Secretary.*

68 Bay State Road, Boston, Mass.

SOUTH END NEIGHBORHOOD MEDICAL CLUB

The next regular meeting of the South End Neighborhood Medical Club will be held at the office of the Boston Tuberculosis Association, 554 Columbus Avenue, Boston, on Tuesday, March 19, 1929, at 12 noon.

The speaker will be Dr. P. N. Papas, connected with the Genito-Urinary Department of the Massachusetts General Hospital, and with the Harvard Medical School, his address; 467 Commonwealth Avenue, Boston. His subject will be:—"Diathermy in Prostatic Genito-Urinary Complications". All physicians are cordially invited to attend. The usual luncheon will follow.

MASSACHUSETTS GENERAL HOSPITAL

A Clinical Meeting of the Staff of the Massachusetts General Hospital will be held in the Moseley Memorial Building, Thursday, March 14, 1929, at 8:15 P. M.

PROGRAM

1. Demonstration of Cases.
2. Some types of Cardiac Failure. Dr. Sidney C. Burwell, Professor of Medicine, Vanderbilt University Medical School—Alumnus, Massachusetts General Hospital.

Physicians, medical students and nurses are cordially invited to attend.

COMMITTEE ON HOSPITAL MEETINGS.

BOSTON ORTHOPEDIC CLUB

A meeting of the Boston Orthopedic Club will be held at the Deaconess Hospital on Monday, March 11, 1929, at 8:15 p. m.

PROGRAM

Title—"Orthopedic Problems of Diabetes."

Dr. Howard A. Root: General Outline of the Problems.

Dr. Mark H. Rogers: Sub-deltoid Bursitis. Paralysis. Toe-drop Cases.

Dr. Leland S. McKittrick: Causes and Treatment of Ulceration of Feet.

R. K. GHORMLEY, *Sec.*

WINTER TRAINING COURSE FOR MEDICAL RESERVE OFFICERS

The Winter Training Course for Officers of the Medical Section, Organized Reserves, U. S. Army, in Boston, and vicinity, will be held on March 13, 1929, at 8:00 P. M., at the University Club, 40 Trinity Place, Boston, Mass.

Officers attending the meeting will be given credit for participation in Military Activities.

The programme will consist of a Map Problem concerning the use of Regimental Medical Detachments.

CHAS. G. SOUDER, *Major, Medical Corps.*

SOCIETY MEETINGS

Combined Meetings of the Boston Medical Library, the Suffolk District Medical Society, the Middlesex South District Medical Society and the Norfolk District Medical Society (at Boston Medical Library at 8:15)

March 27, 1929—Meeting in association with Middlesex South District Medical Society. Clinical and Experimental Studies of Obstructing Jaundice and Its Complications. Dr. Waltman Walters, Mayo Clinic.

April 24, 1929—Annual meeting. Speaker, Dr. Walton Martin, New York City. Title to be announced later.

The medical profession is cordially invited to attend all these meetings.

March 11—Boston Orthopedic Club. Complete notice appears above.

March 13—Greater Boston Medical Society. Complete notice appears on page 513.

March 13—Winter Training Course for Medical Reserve Officers. Complete Notice appears above.

March 14—Staff Meeting of the Massachusetts General Hospital. Complete notice appears on page 513.

March 19—South End Neighborhood Medical Club. Detailed notice appears on page 513.

March 25, 26, 27—American Association for the Study of Goiter. Detailed notice appears on page 213, issue of January 24.

May 5-10—First International Congress on Mental Hygiene. Complete notice appears on page 411, issue of February 21.

June 13—International Hospital Congress. Complete notice appears on page 212, issue of January 24.

October 7-19—New York Academy of Medicine. Detailed notice appears on page 468, issue of February 28.

DISTRICT MEDICAL SOCIETIES

Barnstable District Medical Society

Schedule of Meetings: May 2, 1929.

Bristol North District Medical Society

April 18, 1929—Spring meeting.

Essex North District Medical Society

May 1, 1929 (Wednesday)—Annual meeting at Lawrence General Hospital, One Garden Street, Lawrence, at 12:30 P. M. (Telephone 5156.)

May 2, 1929 (Thursday)—Censors meet at Hotel Bartlett, 95 Main Street, Haverhill, at 2 P. M. (Tel. 3430.)

Candidates should present their diplomas one week in advance to the Secretary, J. Forrest Burnham, M.D., 567 Haverhill Street, Lawrence.

Franklin District Medical Society

Meetings will be held on the second Tuesday of March and May.

Hampshire District Medical Society

March 13, 1929—Address by Dr. George E. Gage, Professor of Bacteriology and Physiology at the Massachusetts State College

Middlesex East District Medical Society

The following schedule of meetings has been arranged for the coming year:

March—Reading.
May—Melrose.

Subjects and speakers to be arranged by committees in each city or town.

Middlesex North Medical Society

The annual meeting will be held the last Wednesday in April.

Middlesex South District Medical Society

March 27, 1929—Joint meeting with the Suffolk and Norfolk Districts.

April, 1929—Annual meeting. Definite date to be announced later.

Norfolk District Medical Society

Below are the proposed meetings of the Norfolk District Medical Society for the 1928-29 Season. The schedule below will be adhered to as strictly as possible. The carrying out of the proposed plan will, of course, depend upon the acceptances of invitations extended to the speakers. Minor changes may be necessary.

March 29 — Roxbury Masonic Temple. Subject and speakers to be announced.

May—Annual meeting program to be announced.

The Censors of the Society meet May 9, 1929, at the Roxbury Masonic Temple, Warren Street, Roxbury, at 1 P M., for the examination of candidates.

Plymouth District Medical Society

March meeting at the Moore Hospital, Brockton, Mass., March 21st, program to be announced later.

April meeting at the Commercial Club, Brockton, April 18th, at 6 P. M. Annual Oration by Dr. Ralph C. McLeod, Orator; dinner.

Suffolk District Medical Society

See Combined Meetings in previous column.

Worcester District Medical Society

March 13, 1929—Worcester City Hospital. Dedication of New Nurses' Home. Speaking program to be announced.

April 10, 1929—Grafton State Hospital. Program to be announced.

May 8, 1929—Annual meeting. Worcester Country Club.

Worcester North District Medical Society

Annual meeting the fourth Tuesday in April.

BOOK REVIEWS

The Treatment of Venereal Disease in General Practice. By E. T. BURKE, D.S.O., M.B., CH.B. Published by Oxford University Press, New York. 162 Pages. Price $1.75.

This is a small manual on the treatment of venereal disease designed to be of use to the general practitioner rather than the specialist. Dr. Burke is the editor of the Syphilis Section of the British Journal of Venereal Diseases. A very clear summary of the treatment of syphilis is given in the first part of the book with a discussion of the merits of antisyphilitic remedies, their dosage and methods of administration. The author considers mercury obsolete as an antiluetic drug. The latter part of the book is devoted to a short discussion of the treatment of gonorrhea.

The chief merit of the book lies in the chapters on syphilis. A study of these would be of help to the physician who treats the occasional case of syphilis in the course of a general practice.

Partnerships, Combinations and Antagonisms in Disease. By EDWARD C. B. IBOTSON, M.D. (Lond.) B.S. F. A. Davis Company. Philadelphia. 1929. Price $3.50.

This book with the unique title drawn mainly from the sister profession of law, purports to "put together some of the facts and theories concerning morbid alliances and antagonisms". The first portion is based upon certain conceptions of diatheses or predispositions to disease. We find here a reversion to the older terminology and conceptions regarding tendencies which we rarely encounter in modern medical literature, for in the search for more fundamental causes of disease, terms such as exudative strumous, bilious, neuropathic, and scrofulous diatheses have become obsolete.

As our knowledge of heredity, epidemiology, pathological physiology, and bio-chemistry becomes enlarged we find it decreasingly necessary to rely upon such obfuscating explanations of disease as diathesis. In this book logical reasoning has been supplanted by facile deductions as represented by this case: "A child, apparently in perfect health, has a fall on the back of the head, owing to the slippery ground of winter. About ten days later, the mother finds one morning that the child cannot be roused up to take notice. The doctor called in finds pulse and temperature normal, pupils equal reflexes normal; yet the child never regains consciousness and dies in convulsions three weeks later. Lumbar puncture revealed a lymphocytosis and the presence of a few bacilli in the greatly increased cerebrospinal fluid. The disease had been in the meninges—who can say how long! The fall was necessary to light up and make it evident". It is far from certain that tuberculosis may remain in the meninges a long time and this case certainly does not prove it.

The author believes that "the rheumatic diathesis is a thyroid and probably a parathyroid deficiency disease" and that "thyroid extract is beneficial in all the forms of so-called 'rheumatism' except perhaps fibrositis. Case 1—Had at first, swellings in practically all the joints, and symptoms also of Graves' disease. Counterirritation over the thyroid gland relieved these symptoms, and then 1½ grains of thyroid extract was given at night, with great relief to the rheumatism. The patient gained 21 pounds in weight. Case 2—Had thyroid inadequacy with osteoarthritis. Every joint was affected, including the spine and jaws. There was also every symptom of myxedema. Thyroid extract, 5 grains, was given three times daily for three weeks, with then a week's interval." These cases were reported in 1912 and there is nowhere any reference to basal metabolic rate determination. The pernicious practice of indiscriminately administering thyroid in this manner without metabolic control has been often pointed out. The same holds true of the use of insulin and we read "that many cases of high blood pressure have been benefited by an injection of insulin" without reference to blood sugar studies.

On page 36 we find that statement that "Gout may commence at an early age; it has been observed as early as eight years, obviously an inheritance from a gluttonous ancestry." It is indeed surprising to note that a book bearing the date of publication as 1929 states that the remedy for Addison's anemia is dilute HCL and no word of liver therapy. This applies likewise to the statement that no active principle has yet been isolated from the parathyroid gland. The author is evidently not familiar with the Sippy diet as he describes "The Maclean Treatment which was first given to the medical world in a 'Lancet' article in January, 1928, has yielded many remarkable cures in cases of gastric ulcer associated with hyperchlorhydria. It essentially consists in the maintenance of alkalinity of the stomach by means of powders composed of bicarbonate of sodium, bismuth and magnesia carbonates taken in milk after meals. A dose, last thing at night and a dose in the night if waking occur with gastric discomfort".

The reviewer approached this book with a great deal of interest as the subject matter bears great potentialities. Keen disappointment was experienced, however, as such pseudo facts and half truths were repeatedly encountered. This is well illustrated by the following: "An attack of a disease may either make a patient more susceptible to another disease or it may on the contrary raise his resistance", which is obviously true. Followed as it is by the statement "I have heard a doctor say that since he had had smallpox, he had never had any other illness", we are forced to conclude that the author is neither scientific nor accurate. True empirism has its value, but the habit of hasty conclusion, whether in etiology, diagnosis, or therapy of disease, retards progress.

Thrombo-angiitis Obliterans, by GEORGE E. BROWN, EDGAR V. ALLEN, AND HOWARD R. MAHORNER. W. B. Saunders Company. 219 Pages. Price $3.00.

This new monograph from the Mayo Clinic represents a very comprehensive study of a disease that is not generally well understood. Three hundred cases were studied, this being the total number admitted to the Mayo Clinic in the five-year period between 1922 and 1927. The ratio of patients with thrombo-angiitis obliterans of all males registering at the above clinic is approximately 1:400. This is an unusually large experience and the authors deserve much credit for giving the profession the benefit of their investigations in such a clear and concise manner.

Although the etiology still remains a mystery, many of the previously advanced theories have been adequately disproven. Thirty well illustrated pages are devoted to pathology, and Von Winnewarter's (1879), and Buerger's (1909) work on this subject coincides with that of the authors. They have also made clear the relationship between thrombo-angiitis obliterans and other circulatory disorders of the extremities, and have well pointed out the frequently seen vasomotor, and arteriosclerotic phases which are prone to complicate and mask the picture of this disease. Much has been done to advance treatment, the vasomotor system being the chief point of attack. In addition to the usual hygienic measures, rest, elevation, heat and fluids, the vasoconstrictor's action can be temporarily abolished by non-specific foreign protein (typhoid vaccine intravenously). Although the reviewer prefers to space the doses to seven days or more, instead of the four day interval as advocated by the authors, the method offers more than any palliative procedure heretofore advised. The more radical treatment of lumbar ganglionectomy has given brilliant results in eighteen instances and will undoubtedly become the standard surgical procedure in suitable risks and under proper circumstances.

Thyroxine, by EDWARD C. KENDALL, M.S., PH.D., D.Sc. The Chemical Catalog Company, Inc. Price $5.50.

The description of the discovery of Thyroxine with the empirical formula $C_{15}H_{11}O_4N$ on December 25, 1924, as described by its discoverer, Dr. Kendall, is of fascinating interest. The book deals with the subject of thyroid disease as viewed by a chemist and deals with thyroid problems as they relate to Thyroxine.

The methods of obtaining Thyroxine are described, as are also Harrington's experiences in the production of Thyroxine by synthesis.

Each chapter contains a short summary of its contents, a most pleasing and useful plan in a book dealing with a subject of this nature, and involving chemical discussion not readily comprehended except by one especially trained and interested in the subject.

The book also contains a bibliography of five hundred and forty-one references, and while it is doubtless intended for those who are particularly interested in the chemical side of thyroid activity, nevertheless it contains much valuable and interesting information for the clinician.

An Index of Differential Diagnosis of Main Symptoms. Edited by Herbert French. (4th Edition.) Wm. Wood & Co. 1928.

The work has been thoroughly revised but the plan of presentation remains the same as in previous editions. Signs and symptoms of disease are discussed in alphabetical order. Under each heading the differential diagnosis of the various diseases which may cause the sign or symptom is given. While, therefore, a symptom is dealt with but once, a disease responsible for the particular symptom may recur for discussion under the heading of each of its other more important symptoms. In view of many cross references it has been thought more convenient to continue the work as a single volume. To preserve convenience in this respect this fourth edition of 1171 pages is necessarily awkward on account of its bulk. It covers the whole ground of medicine, surgery, gynecology, opthalmology, dermatology and neurology. The information contained within its covers is encyclopedic in scope. The arrangement of material is methodical. The 701 illustrations have been carefully selected and the 179 in colors set forth very strikingly the appearance of lesions, blood pictures, and chemical laboratory tests dependent upon color reactions. Its value as a reference work is marvelously enhanced by a four-column index of 226 pages. In the preface of this edition the editor extends his thanks "to the unnamed men in the printing works who had no mean task to deal with when they set up the type for this meticulous index with, one believes, extremely few mistakes."

It is impossible adequately to review so comprehensive a treatise. It is possible only to convey an idea of the scope by noting some of the headings. That on albuminuria consists of 16 pages with 15 illustrations; anemia 26 pages with 43 illustrations; ascites 23 pages with 5 illustrations; constipation 11 pages with 10 illustrations; contractions 11 pages with 8 illustrations; discharges 9 pages with 3 illustrations; facies 7 pages with 20 illustrations; hematemesis and hematuria 21 pages with 21 illustrations; jaundice 18 pages with 9 illustrations; ophthalmoscopic appearances 4 pages with 22 illustrations in color; pain 70 pages with 29 illustrations; paralyses 30 pages with 24 illustrations; pyrexia 28 pages with 26 illustrations mostly temperature charts; abnormalities of sensation 8 pages with 11 illustrations; enlargement of spleen 14 pages with 13 illustrations.

The list of contributors and their subjects given on pages ix-xi indicates the authoritative character of the work. The book may be advantageously consulted by the practitioner. It is of special value to the Medical Student. The tabulations, analyses and illustrations serve splendidly to fix much information in his mind during his early years of training.

Comparative Neurology: A Manual and Text for the Study of the Nervous System of Vertebrates. By JAMES W. PAPEZ, B.A., M. D. Thomas Y. Crowell Company, New York. 1929. Price $6.00.

The work is designed as a laboratory manual and textbook for a course in comparative neurology given at Cornell University. Parts one and two cover the mammalian brain, both gross and microscopic, and part three that of the lower animals. The text is clear and concise, the illustrations adequate and modern physiological concepts are considered briefly. Function and structure are considered together, a grouping which greatly enhances the value of the book. As an elementary textbook it can be highly recommended.

BOOKS RECEIVED FOR REVIEW

Practical Dietetics in Health and Disease. Edited by Sanford Blum. Published by F. A. Davis Company. 380 Pages. Price $4.00.

Practical Medicine Series (Series 1928)—General Surgery. Edited by Evarts A. Graham. Published by Year Book Publishers. 800 Pages.

Erythema Nodosum. Edited by J. Odery Symes. Published by Wm. Wood & Co. 70 Pages. Price $2.00.

The Harvey Lectures. 1927-1928. Edited by Drs. Edward Francis, Frank C. Mann, Carl F. Cori, Wallace O. Fenn, George R. Minot, E. S. London, Thomas Addis, Alfred E. Cohn. Published by Williams & Wilkins Co. 280 Pages.

Textbook of Clinical Neurology. Edited by M. Neustaedter. Published by F. A. Davis Company. 602 Pages. Price $6.00.

An Index of Differential Diagnosis of Main Symptoms. Edited by Herbert French. Published by Wm. Wood & Co. 943 Pages. Price $18.00.

Comparative Neurology. Edited by James W. Papez. Published by Thomas Y. Crowell. 518 Pages. Price $6.00.

What Every One Should Know About Eyes. Edited by F. Park Lewis. Published by Funk & Wagnalls Company. 70 Pages. Price $.30.

Diabetes and Its Treatment. Edited by Frederick M. Allen. Published by Funk & Wagnalls Company. 98 Pages. Price $.30.

Care of the Mouth and Teeth. Edited by Harvey J. Burkhart. Published by Funk & Wagnalls Company. 45 Pages. Price $.30.